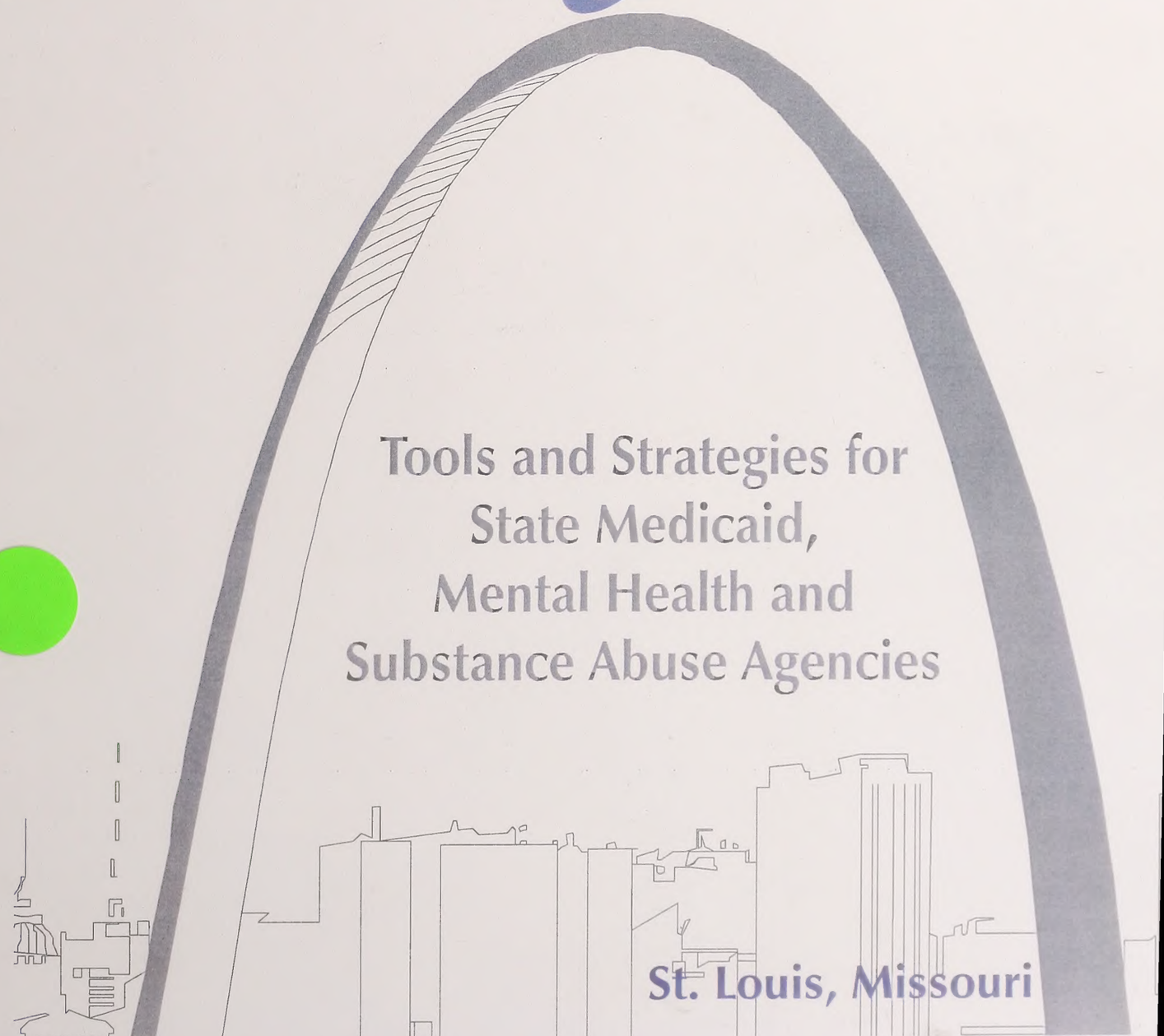
Quality
Assessment and Improvement:



Tools and Strategies for State Medicaid, Mental Health and Substance Abuse Agencies

September 26 - 28, 2000

HCFA
Health Care Financing Administration

Substance Abuse and Mental Health Services Administration
SAMHSA

St. Louis, Missouri

September 26, 2000

WELCOME

Welcome to the Health Care Financing Administration's and Substance Abuse and Mental Health Services Administration's "Quality Assessment and Improvement: Tools and Strategies for State Medicaid, Mental Health and Substance Abuse Agencies" conference. The purpose of this conference is to provide technical assistance to State agency management and staff and HCFA Regional Office staff on how to implement valid and reliable methods of overseeing and improving health care quality.

Our plenary keynote speaker, Rachel Block, Deputy Director of the Center for Medicaid and State Operations, HCFA, will address the importance of quality improvement and a State quality strategy. The plenary session continues with Emma Hoo, Director of Value Based Purchasing for Pacific Business Group on Health. Ms. Hoo will provide a private sector perspective on how to implement a quality strategy.

Michael Millenson will be our luncheon speaker. He is the author of *Demanding Medical Excellence* and a three-time Pulitzer Prize nominee as a reporter for the *Chicago Tribune*. Mr. Millenson will address, from the private sector perspective, the factors that influence the measurement and improvement of health care.

A number of the sessions will begin with an introduction to the HCFA External Quality Review Protocols for the applicable quality improvement activity. The session speakers will provide case examples of how they have implemented the quality improvement activity. To facilitate an exchange of ideas, time has been allocated at the end of each session for questions and answers.

We hope that you leave this conference with information that will assist you when conceptualizing and implementing your State quality strategy. We will ask some pointed questions in our conference evaluation to this effect and will follow up with an evaluation a year from now to see if this conference did assist you and how we can improve on future training efforts.

Should you need any assistance, please feel free to contact any member of the hotel or AFYA staff, our logistics contractor.

Have a great conference!

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AGENDA

MONDAY, SEPTEMBER 25, 2000

5:00 PM — 8:00 PM **PRE-CONFERENCE REGISTRATION – Assembly Area West**

DAY 1: TUESDAY, SEPTEMBER 26, 2000

7:00 AM — 5:00 PM **REGISTRATION – Assembly Area West**

7:00 AM — 9:00 AM **CONTINENTAL BREAKFAST – Outside Meramec Room**

7:30 AM — 9:00 AM **QUALITY: THE BASICS** *(Optional)* **– Jefferson B Room**
Moderator: Ann Page, *Health Care Financing Administration (HCFA)*
Lawrence Kleinman, MD, MPH, *Lehigh Valley Hospital*

9:00 AM — 10:30 AM **PLENARY SESSION – Meramec Room**
Moderator: Deirdre Duzor, *HCFA*

WELCOME
Eric Goplerud, *Substance Abuse and Mental Health Services Administration (SAMHSA)*
Tom Lenz, *HCFA - Region VII*

KEYNOTE ADDRESS – QUALITY: PUTTING IT INTO PERSPECTIVE
Rachel Block, *HCFA*

COMBINING MEASUREMENT TOOLS FOR AN EFFECTIVE STATE STRATEGY
Emma Hoo, *Pacific Business Group on Health*

10:30 AM — 10:45 AM **BREAK – Outside Meramec Room**

10:45 AM — 12:00 PM **PLENARY SESSION – Meramec Room**
REPORTING TO YOUR STAKEHOLDERS
Moderator: Kathleen Blume, *HCFA*
Jeanne McGee, Ph.D, *McGee and Evers Consulting, Inc.*

12:00 PM — 1:15 PM **LUNCH: SPEAKER – QUALITY OR ELSE: THE FUTURE OF AMERICAN HEALTH CARE – Missouri Room**
Moderator: Deirdre Duzor, *HCFA*
Michael Millenson, *William M. Mercer, Inc.*

1:15 PM — 3:45 PM **PLENARY SESSION – Meramec Room**
SAFEGUARDING QUALITY: STRUCTURAL AND OPERATIONAL STANDARDS
Moderator: Ann Page, *HCFA*
Susan Moran, RN, *Michigan Department of Community Health*
Karen Peed, *Minnesota Department of Human Services*
William Tulloch, MA, *National Committee for Quality Assurance*
Linda Oliver, RN, PAHM, *Delmarva Foundation for Medical Care, Inc.*
Julie Tyler, RN, ABQAURP, *Delmarva Foundation for Medical Care, Inc.*

DAY 1: TUESDAY, SEPTEMBER 26, 2000 *(Continued)*

3:45 PM — 4:00 PM **BREAK – Outside Meramec Room**

4:00 PM — 5:30 PM **BREAKOUT SESSIONS**

ENCOUNTER DATA:

THE BASICS – Jefferson A Room
Moderator: Sharon Patterson, *HCFA*
Anthony Asciutto, MA, MPH, *The MEDSTAT Group*
Marjorie Porell, MS, *Massachusetts Division of Medical Assistance*

LESSONS LEARNED WHEN USING ENCOUNTER DATA FOR MONITORING QUALITY IN BEHAVIORAL HEALTH CARE – Meramec Room
Moderator: Elise Young, *SAMHSA*
Jim Linnane, MPA, *Connecticut Department of Social Services*
Jack Wackwitz, Ph.D., *Colorado Mental Health Services*

LESSONS LEARNED WHEN USING ENCOUNTER DATA FOR MONITORING QUALITY IN ACUTE/PREVENTIVE CARE – Jefferson B Room
Moderator: Carol Crimi, *HCFA*
Joan Kapowich, RN, *Oregon Department of Human Services*
Patrick Roohan, MS, *New York Department of Health*

DAY 2: WEDNESDAY, SEPTEMBER 27, 2000

7:30 AM — 5:00 PM **REGISTRATION – Assembly Area West**

7:30 AM — 8:30 AM **CONTINENTAL BREAKFAST – Missouri Room**

8:30 AM — 10:00 AM **BREAKOUT SESSIONS**

TAKING THE PULSE OF CONSUMERS AND PROVIDERS THROUGH SURVEYS – Jefferson B & C Rooms
Moderator: Ann Page, *HCFA*
Vasudha Narayanan, MS, MBA, MA, *The WESTAT Group*
Jeanne McGee, Ph.D., *McGee and Evers Consulting, Inc.*

APPROACHES AND USES OF TOOLS TO IDENTIFY INDIVIDUALS WITH SPECIAL HEALTH CARE NEEDS – Jefferson E & F Rooms
Moderator: Deborah Ashman, *HCFA*
Christina Bethell, Ph.D., MBA, MPH, *Foundation for Accountability*
John Neff, MD, *Center for Children with Special Needs and Chronic Health Care Conditions, Children's Hospital and Regional Medical Center*

10:00 AM — 10:15 AM **BREAK – Assembly Area West**

10:15 AM — 11:15 AM **BREAKOUT SESSIONS CONTINUE – Jefferson B & C, Jefferson E & F Rooms**

11:15 AM — 12:30 PM **LUNCH** *(On your own)*

DAY 2: WEDNESDAY, SEPTEMBER 27, 2000 *(Continued)*

12:30 PM — 1:30 PM **PLENARY SESSION**

USING PERFORMANCE MEASURES – Mississippi Room
Moderator: Ann Page, *HCFA*
Monica Wassell, RN, MPP, *FMAS/DynCorp*
Michael Bailit, *Bailit Health Purchasing, LLC*

1:30 PM — 3:00 PM **BREAKOUT SESSIONS**

PERFORMANCE MEASURES:
BEHAVIORAL HEALTH – Mississippi Room
Moderator: Eric Goplerud, *SAMHSA*
Barry Kast, MSW, *Oregon Mental Health Division*
Deborah Garnick, Sc.D, *Brandeis University*
Candice Nardini, MPH, *Value Options*

ACUTE/PREVENTIVE HEALTH – Jefferson E Room
Moderator: Deirdre Duzor, *HCFA*
Mary Fermazin, MD, MPA, *Health Services Advisory Group*
Foster Gesten, MD, *New York Department of Health*
Alice Lind, RN, MPH, *Washington Medical Assistance Administration*

SPECIAL NEEDS POPULATIONS – Jefferson F Room
Moderator: Ann Page, *HCFA*
Susan Moran, RN, *Michigan Department of Community Health*
Elaine Haemmerle, RN, *Arizona Health Care Cost Containment System*

3:00 PM — 3:15 PM **BREAK – Assembly Area West**

3:15 PM — 5:30 PM **PLENARY SESSION**

PERFORMANCE IMPROVEMENT PROJECTS – Mississippi Room
Moderator: Sharon Gilles, *HCFA*
Ruth Martin, MBA, MPH, *Consultant*
Beth Tortolani, RN, BS, MS, *Massachusetts Division of Medical Assistance*
Diane Herr, *Maryland Health Choice and Acute Care Administration*

DAY 3: THURSDAY, SEPTEMBER 28, 2000 *(Closed - Participating States Only)*

7:30 AM — 8:30 AM **REGISTRATION AND STORYBOARD SET-UP FOR IHI COLLABORATIVE – Assembly Area West**

7:30 AM — 8:30 AM **CONTINENTAL BREAKFAST – Assembly Area West**

8:30 AM — 10:30 AM **PLENARY SESSION – Mississippi Room**

INSTITUTE FOR HEALTHCARE IMPROVEMENT: ASTHMA AND DEPRESSION COLLABORATIVE
Charles Homer, MD, *Institute for Healthcare Improvement*
David Katzelnick, MD, *Madison Institute of Medicine, Inc.*
Carol Haraden, Ph.D., *Institute for Healthcare Improvement*

10:30 AM — 10:45 AM **BREAK – Assembly Area West**

DAY 3: THURSDAY, SEPTEMBER 28, 2000 *(Continued)*

10:45 AM — 12:00 PM	INSTITUTE FOR HEALTHCARE IMPROVEMENT *(Continued)* **Mississippi Room**
12:00 PM — 1:15 PM	LUNCH *(On your own)*
1:15 PM — 2:45 PM	BREAKOUT SESSIONS
	IMPROVING CARE FOR BENEFICIARIES WITH ASTHMA – **Jefferson E Room** Charles Homer, MD, *Institute for Healthcare Improvement*
	IMPROVING CARE FOR BENEFICIARIES WITH DEPRESSION **Jefferson D Room** David Katzelnick, MD, *Madison Institute of Medicine, Inc.*
2:45 PM — 3:00 PM	BREAK
3:00 PM — 4:30 PM	INSTITUTE FOR HEALTHCARE IMPROVEMENT *(Continued)* **Mississippi Room**

SESSION SUMMARIES

SESSION SUMMARIES

SESSION TITLE	PRESENTER(S)	DESCRIPTION
DAY 1: TUESDAY, SEPTEMBER 26, 2000		
Quality: The Basics	Larry Kleinman	This optional session will review the essentials of quality measurement: defining quality, measuring quality, and improving quality of care.
Opening Plenary: Quality: Putting it into Perspective Combining Measurement Tools for an Effective State Strategy	Rachel Block Emma Hoo	This Keynote session will address the importance of quality improvement. The session will provide information on the importance of a State quality strategy and the approaches States can use to implement a quality strategy. The session will also provide information on the resources and commitments needed by States in order to implement a quality strategy. The session continues with an illustration on how the Pacific Business Group on Health has used tools in a coordinated effort for quality improvement purposes, the lessons learned from these activities, and how this can apply to State Medicaid agencies.
Reporting to your Stakeholders	Jeanne McGee	This plenary session will provide information that will be useful to States in designing reports on quality of health care provided by Medicaid MCOs for various audiences (e.g. Medicaid beneficiaries and providers)
Quality or Else: The Future of American Health Care	Michael Millenson	Michael Millenson is the author of *Demanding Medical Excellence* and a three-time Pulitzer Prize nominee as a reported for the *Chicago Tribune*. This lunch presentation will address, from a private sector perspective, factors that influence the measurement and improvement of health care.
Safeguarding Quality: Structural and Operational Standards	Susan Moran Karen Peed William Tulloch Linda Oliver Julie Tyler	This plenary session will identify how to monitor compliance with structural and operational standards as part of a State quality strategy from three different perspectives – a State Health Department, an Accrediting Organization, and an External Quality Review Organization.
Encounter Data: The Basics	Anthony Asciutto Marjorie Porell	This breakout session will focus on the fundamental issues involved in the collection of encounter data. Issues to be discussed include how to collect and validate encounter data, the advantages and limitations of encounter data as a data source, accuracy and completeness, comprehensiveness (i.e., all variables required), and the importance of leadership and commitment of resources over time.
Encounter Data: Lessons Learned when Using Encounter Data for Monitoring Quality in Behavioral Health Care	Jim Linnane Jack Wackwitz	This breakout session will identify how to collect and use valid and reliable data for quality measurement purposes. The session will focus on the strengths and limitations of using encounter data to measure, assess, and improve behavioral health care.
Encounter Data: Lessons Learned when Using Encounter Data for Monitoring Quality in Acute/Preventive Care	Joan Kapowich Patrick Roohan	This breakout session will identify how to collect and use valid and reliable data for quality measurement purposes. The session will focus on the strengths and limitations of using encounter data to measure, assess, and improve acute/preventive care.

SESSION TITLE	PRESENTER(S)	DESCRIPTION
DAY 2: WEDNESDAY, September 27, 2000		
Taking the Pulse of Consumers and Providers Through Surveys	Vasudha Narayanan Jeanne McGee	This breakout session will provide information that will be useful to States in designing and using different types of surveys of Medicaid beneficiaries and their providers to improve quality of care. This session includes an overview of the EQR Survey Protocol, a discussion of consumer surveys being used by States, and a discussion of the strengths and weaknesses of provider surveys.
Approaches and Uses of Tools to Identify Individuals with Special Health Care Needs	Christina Bethell John Neff	This breakout session will provide information on different approaches and uses of screening tools to identify individuals with special health care needs.
Using Performance Measures	Michael Bailit Monica Wassell	This plenary session will address the BBA regulation with respect to performance measures and will provide a brief overview of the EQR protocol for validating performance measures. The session will also address the fundamentals of performance measurement such as its relationship to other quality improvement approaches, the origins of performance measurement in the health care industry, and commonly used performance measures.
Performance Measures: Behavioral Health	Barry Kast Deborah Garnick Candice Nardini	This breakout session will discuss the use of behavioral health performance measures. The presenters will discuss their experiences using performance measures and will address the following: the origin of their measures, problems encountered when using performance measures, the pros and cons of using standardized versus State-developed measures, the need for validation of performance measures, issues in using performance measures once produced, and successes experienced by States in improving quality through the use of performance measures.
Performance Measures: Acute/Preventive	Mary Fermazin Foster Gesten Alice Lind	This breakout session will discuss the use of acute/preventive health performance measures. The presenters will discuss their experiences using performance measures and will address the following: the origin of their measures, problems encountered when using performance measures, the pros and cons of using standardized versus State-developed measures, the need for validation of performance measures, issues in using performance measures once produced, and successes experienced by States in improving quality through the use of performance measures.
Performance Measures: Special Needs Population	Susan Moran Elaine Haemmerle	This breakout session will discuss the use of performance measures for beneficiaries with special health care needs. The presenters will discuss their experiences using performance measures and will address the following: the origin of their measures, problems encountered when using performance measures, the pros and cons of using standardized versus State-developed measures, the need for validation of performance measures, issues in using performance measures once produced, and successes experienced by States in improving quality through the use of performance measures.
Performance Improvement Projects	Ruth Martin Beth Tortolani Diane Herr	This plenary session will address how to conduct and validate performance improvement projects. An overview of the EQR protocol will be provided. In addition, examples will be provided from two State Medicaid agencies on their experiences conducting these projects.

Quality: The Basics

Lawrence C. Kleinman
Lehigh Valley Hospital

Quality: Putting it into Perspective

Rachel Block
Health Care Financing Administration

RACHEL BLOCK

Rachel Block is the Deputy Director of the Center for Medicaid and State Operations, Health Care Financing Administration. In conjunction with the Center's Director, she provides leadership in the development and implementation of national policies governing Medicaid, survey and certification, the Children's Health Insurance Program and insurance reform provisions of the Health Insurance Portability and Accountability Act (HIPAA). CMSO also serves as the focal point for all HCFA interactions with States, local governments and Native American and Alaskan Native Tribes.

Since joining HCFA in 1994, Rachel has also served as: Director of CMSO's Data and Systems Group where she was responsible for the development and support of systems for Medicaid and survey and certification, as well as information analysis and technical assistance for internal and external customers; Director of the Medicaid Managed Care Team where she was responsible for overseeing the review and approval of Section 1915(b) Medicaid managed care waivers, and provided leadership on major policy and operational issues relating to Medicaid managed care; and as Director of the Office of Planning and Special Initiatives, and Associate Director of HCFA's Medicaid Bureau.

Before she joined HCFA, Rachel served as Special Adviser on health care to Vermont's Governor Howard Dean, MD and Executive Director of the Vermont Health Care Authority; Executive Director for the Majority Leader of the New York State Assembly, with principal responsibility for health and social services policy (1988-1992), Director of the Subcommittee on Health Insurance, New York State Council on Health Care Financing (1985-1988), and in various staff positions with the New York State Assembly's Committee on Health (1983-1985) and Higher Education (1979-1982).

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Combining Measurement Tools for an Effective State Strategy

Emma Hoo
Pacific Business Group on Health

Emma Hoo

Emma Hoo is the Associate Director of Value-Based Purchasing at the Pacific Business Group on Health (PBGH). She manages the annual negotiations for 20 large businesses in the PBGH Negotiating Alliance, representing over $400 million in annual premiums. In addition, she is responsible for the operations of Pacific Health Advantage, a purchasing pool of 9,000 small businesses and 140,000 members, also known as the Health Insurance Plan of California (HIPC). The Negotiating Alliance has successfully negotiated with commercial and Medicare California HMO's on rates, benefits, and performance measures since 1994.

Previously, Ms. Hoo was Director of Operations for a Northern California medical group where she is responsible for contracting, data analysis, and information systems. Ms. Hoo received a B.S. in Social Studies from Harvard University.

Effective Quality Purchasing: A Private Sector Perspective

Emma Hoo
Pacific Business Group on Health

September 26, 2000

Pacific Business Group on Health (PBGH)

- Public/private sector purchasers
- Large – at least 2,000 employees in California
- Small – PacAdvantage…over 9,000 small (2-50) employees
- Spend $3 billion annually on health

Current PBGH Member Companies

Adobe Systems Incorporated*
APL Limited
Apple*
Applied Materials*
Automobile Club of Southern California
Bank of America
Bank of the West
Beringer Wine Estates
California Public Employees Retirement System
Chevron Corporation
Cisco Systems, Inc.*
Federal Reserve Bank of San Francisco
Fireman's Fund
Hewlett Packard Company*
Hughes Electronics Corporation
KLA Tencor*
Lockheed Martin Missiles & Space
LSI Logic
McKesson HBOC, Inc.
Mervyn's California
NEC Electronics Inc.*
Novell Inc.*
Oracle Corporation*
Pacific Gas and Electric Company
Philips Semiconductors
Ross Stores, Inc.
Safeway Inc.
SBC Communications Inc.
Sempra Energy
sgi*
Southern California Edison
Stanford University
Stanislaus County
Sybase, Inc.
Symantec Corporation*
Target Stores
The Clorox Company
Transamerica Corporation
Union Bank of California
University of California
Varian, Inc.
Verizon Communications
Wells Fargo & Company
Yahoo!*

* Affiliate Members

PBGH Goals

- Improve health care quality and satisfaction
- Foster informed consumer choice and use of health care services
- Moderate growth in costs
- Hold health plans accountable

Quality and data improvements will keep long-term costs *reasonable*

The California Marketplace

- Majority of Californians are in some type of managed care plan
- Market trends
  - PPO/POS growth, competition, consolidation
- California model network HMOs
  - Providers contract with many health plans
  - Most managed care plans have capitated arrangements with physician groups

California: Where were we in 1990?

- No information on quality for employers or consumers to guide selection of plans or providers
- Unabated growth in premium prices
- Wide variation in premium prices across health plans and employers

California: Where are we today?

- Reduced variation in premiums
- Rates starting to rise after period of stability
- Plan level standardized, comparable information on costs, processes, and outcomes
- Plans held accountable for quality performance and improvement
- Collaborative working relationships between purchasers, plans and providers to achieve quality goals
- Few incentives to consumers to choose quality

Empower Consumers to use Quality Information

- www.HealthScope.org – consumer information comparing quality; plan, group, hospital and individual physicians
- Open enrollment with quality information
- Provide incentives to consumers
- Award Blue Ribbons & publicize good performance

Empowered consumers: Where are we today?

- Many still have little/no choice
- Most information at health plan level
- Few incentives to choose quality
- Conflicting information on medical groups and treatment options

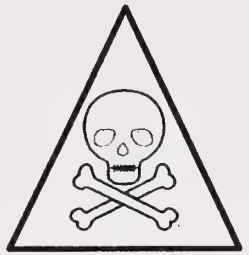
Health care costs: Where are we today?

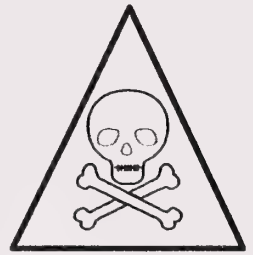
- Premiums on West Coast 30% less than East Coast
- The consumer experience -- All or Nothing
  - Consumers with coverage shielded from costs
  - Increase in those with no insurance coverage
- Potential of 30% savings through quality

The Big Picture on Quality

"50/50 reliability"

	Preventive	Acute	Chronic
Get help	50%	70%	60%
Avoid danger	100%	70%	80%
Both	50%	49%	48%





Source: M. Shuster *et al*, Millbank Q, Dec. 1998

Strategy Backbone

1. Count Quality

2. Make Quality Count

Count Q: Principles

- Recognize poverty of measures and data, especially at provider level
- Leverage existing measures/data
- Initially push for new measures/data feeds, rather than high performance
- Provider measures, since provider Q varies more than plan Q

Count Q: Where Are We?

	Data Availability	Measurement & Reporting	Improvement	Excellence
Plans	B	B	C	C
Hospitals	C	C	?	?
MD Groups	C	C	C	C
MDs	D	F	?	?

Quality: Where are We?

- Under-utilization
  - 50 % appropriate preventive care
  - 70 % appropriate acute care
  - 60 % appropriate chronic care
- Over-utilization
- Patient safety / errors – 44,000 to 98,000 deaths per year
- Health Plan Satisfaction
  - 15 – 30 % dissatisfied

Where do we want to be tomorrow?

- Information at the medical group, hospital and provider level
- Consumers with information and incentives to use quality information
- Purchasers rewarding quality
- Effective regulation

Count Q: Plans

- HEDIS / CAHPS flowing well
- Data base scope and accuracy are major limiting factors
- Supplemental assessment via provider survey re plans
- Plans are not leading improvement
- Standardization among plans of provider Q measurement is key

Making Q Count for Plans

- Selection / deselection
- Enrollment freezes
- Enrollment incentives (premium contribution, out-of-pocket)
- Rebates / bonuses to plans
- Media portrayal (Blue Ribbon)

Making Q Count: Health Care Purchasing

- Plan design – adding OTC tobacco treatment
- Negotiate based on response to quality
  - Quality improvement
  - Disease management
  - Health risk assessment
  - Utilization/case management
- Performance Incentives
- Push envelope on patient safety

Making Q Count: Performance Measures

- Year-round effort—commercial and Medicare+Choice plans
- Negotiated targets
  - Continuous improvement
  - Threshold
- Health plan puts 2% of premium at risk
- User Teams + on-site audit verification

Performance Measures

- Customer Service
  - **Turnaround time for**
    - **Claims**
    - **ID Card/Member Materials**
  - **Phone access**
    - **Speed to live voice**
    - **Abandonment rate**
  - **Resolution of member issues**
- Member Satisfaction
  - **Overall satisfaction**
  - **Overall dissatisfaction**
  - **Access to care**
  - **Referral authorization process**
- Quality
  - **HEDIS data (Pap smear, mammography, childhood immunizations, diabetic retinal exam, beta blocker, etc.)**
- Partnering
  - **Data**
    - **Enrollment/eligibility**
    - **Encounter data**
  - **Patient Safety**
  - **Diabetic management**
  - **Smoking cessation**

Count Q: Providers

- Modest, significant progress in counting hospital and MD group Q
  - Consumer Assessment Survey
  - Pep-C Survey

Count Q: Providers

- Necessary data improvements mapped (CALINX) but not progressing
  - Purchaser → Health Plan
  - Health Plan → Provider
  - Provider → Health Plan
  - Health Plan → Member

Count Q: Providers

- High yield hospital structural measures recently added via Leapfrog
  - Computerized Physician Order Entry
  - Evidence-based hospital referral
  - ICU staffing

Count Q: Providers

- Pressuring plans for common provider measures via alliances with regulators, accreditors, other purchasers
  - Consumer Assessment Survey
  - Provider access measures
  - Provider group-level HEDIS reporting

Making Q Count for Providers

- Activate consumer navigation (Web site, 1-800, print)
- Copayment/deductible variations based on provider Q reporting and favorable scores
- Leapfrog standards focused on rewarding provider Q distinction

PGBH Learnings

- Need to balance incentives for better data/measurement and performance
- Measuring and rewarding among providers is key
- Think wide (media, regulators, other purchasers, options, progressive providers)
- Focus on a few high leverage points
- Persuade management before launch
- Overkill is needed to move Q

Reporting to Your Stakeholders

Jeanne McGee
McGee and Evers Consulting Services, Inc.

Jeanne McGee, PhD

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Jeanne McGee is a health care consultant in Vancouver, Washington. A sociologist with 20 years of experience, she has taught at Duke University, Duke Medical Center, and the University of Oregon. For more than ten years her consulting firm has done custom research and evaluation for clients that include government agencies, health plans, employers, hospitals, foundations, and research institutes. Much of her recent work involves health care quality: designing and conducting surveys to get consumers' and providers' reactions to health plans and medical care; designing and testing ways to share comparative health care information with consumers and purchasers; and helping providers use information for internal quality improvement. Last year Dr. McGee wrote a detailed technical assistance manual for HCFA called *Writing and Designing Print Materials for Beneficiaries: A Guide for State Medicaid Agencies*. Working with Arizona's Medicaid program, she has recently completed a monograph about conducting surveys of physicians and dentists to get their evaluations of Medicaid managed care programs and health plans. She is presently working with Medicaid programs in Oregon and Washington to explore the use of CAHPS survey questions and report formats with beneficiaries who speak Spanish, Russian, and Vietnamese.

Quality or Else: The Future of American Health Care

Michael L. Millenson
William M. Mercer, Inc.

Michael L. Millenson

Michael L. Millenson, a principal in the Health Care and Group Benefits practice of William M. Mercer, Incorporated, is the author of *Demanding Medical Excellence: Doctors and Accountability in the Information Age* (University of Chicago Press). The book, which is the first examination of quality-of-care issues for the general public, recently appeared in paperback with an updated afterword.

National Public Radio called Millenson "in the vanguard of the movement" to measure and improve the quality of medical care. Meanwhile, former surgeon general C. Everett Koop said that *Demanding Medical Excellence"* should be read by everyone who has a stake in the quality of American medicine — patients, physicians and policymakers".

Before joining Mercer, Millenson was a reporter for the *Chicago Tribune*, where he was nominated for a Pulitzer Prize three times.

A sought-after speaker, Millenson has addressed numerous national organizations, testified before Congress and been quoted extensively in the news media. His articles have appeared in publications such as *Health Affairs, World Book Encyclopedia* and *Medicine & Health*. The research for his book was funded by an Investigator Award in Health Policy Research from the Robert Wood Johnson Foundation.

Millenson joined Mercer in its Chicago office in 1996. He is also a visiting scholar at Northwestern University's Institute for Health Services Research and Policy Studies.

Safeguarding Quality: Structural and Operational Standards

Susan Moran
Michigan Department of Community Health

Susan Moran

Sue Moran is Manager of the Quality System Section within the Quality Improvement and Customer Service Bureau of Michigan's Medical Services Administration (the State's Medicaid agency). Her section is responsible for many of the Medicaid program quality oversight initiatives, including the external quality review, HEDIS analysis, consumer satisfaction survey, consumer guide, and encounter data reporting. Sue has been employed with the Michigan Department of Community Health since September 1998. Prior to joining DCH, she worked for over ten years in the managed care industry, primarily in quality assessment and improvement. Sue's background is in nursing and public health.

She will discuss with us the work Michigan has done in the development and implementation of a structured site visit tool modeled after their Medicaid contract and used by the state to monitor compliance with structural and operational standards.

SAFEGUARDING QUALITY

Structural & Operational Standards

Presented by:

Sue Moran

Michigan Dept. of Community Health

Michigan Medicaid Program

- 704,401 beneficiaries enrolled in 19 Medicaid Contracted Health Plans
- State service area covers 83 counties
- A minimum of 2 Plans in a county to mandate assignment of beneficiary
- 9 Counties with only 1 plan
- Michigan seeking exception to do mandatory enrollment in rural counties with only one plan
- Health Plan enrollment ranges from:

  5,474 - 116,430

Michigan Medicaid Program

- State released RFP for competitive price re-bid May 2000
- Contract award based on price, capacity, & quality performance score
- Re-bid Contract effective October 1, 2000

Safeguarding Quality

- Contractual Requirements
- Compliance Monitoring
- Lessons Learned

Contractual Requirements

"At a minimum, a contractor is an organization that is capable of delivering the comprehensive package of services required under this contract to the covered population residing in each county or region for which the contractor is contracted, either through its facilities or personnel, or through contractual arrangements as evidenced by the following criteria."

3 Major Categories of Criteria

- Administrative & Organizational
- Financial
- Provider Network

Administrative & Organizational Criteria

- Key Personnel
- Management Information Systems
- Governing Body
- QI, UM, Provider Network, Reporting, Member Services, Provider Services, Staffing
- Licensed as Michigan HMO
- Has applied, or will apply, for accreditation by NCQA or JCAHO no later than March 31, 2001
- Is incorporated within the State of Michigan

Financial Criteria

- Meets financial requirements for adequate working capital, required deposits & reserves, solvency protection, and submission of financial statements
- New HMO laws increased financial solvency standards for all HMOs
- Reinsurance contract
- Financial records

Provider Network Criteria

- Adequate network in sufficient numbers & location
- Emergency care provided 24 hours per day, 7 days per week
- Requires local agreements with DCH contracted behavioral health & developmental disabilities providers for coordination of services

Contract Compliance Monitoring

- Biannual site visits
- Interdepartmental teams consisting of licensing officer, contract manager, and quality analyst
- Structured assessment tool assigns score of Pass, Fail, or Incomplete
- Findings incorporated into report
- Health Plan must respond with action plan

Team Site Visits

- Licensing Officers: Responsible for licensing & regulation of HMOs (Insurance Code, HMO Laws)
- Contract Managers: Responsible for day to day contract management and operational issues
- Quality Analyst: Responsible for performance monitoring

Staffing

■ Licensing Officers (LO)	4.0 FTE
■ Contract Managers (CM)	9.0 FTE
■ Quality Analysts (QA)	5.0 FTE
	17.0 FTE

Team Approach

Team Coordinator

- Assigned to Licensing Officer or Contract Manager based upon predominance of Commercial vs. Medicaid membership

Pre Site Team Meeting

- Identify areas of assessment tool for review
- Select review date
- Notification Letter

  (4 - 6 weeks prior to scheduled date)

Structured Review Tool

(6 Sections)

- Administrative
- Provider
- Member
- QA/UR
- Data Reporting/Claims Processing
- Required Documentation

Deemed Status Criteria

- Based on NCQA "Commendable" or "Excellent" status
- Provider Network: (2.8, 2.9, 2.18)
- Customer Service: (3.10.6)
- QA/UM: (4.0, 4.1, 4.3, 4.4, 4.5, 4.6)

Deemed Status Process

- Review of site visit tool with corresponding NCQA standards
- Plan must receive 'Commendable' or 'Excellent' NCQA accreditation level for Medicaid and/or commercial product
- Deemed Status period applies to corresponding time period of NCQA accreditation
- Team may choose review criteria with deemed status

Site Visit Survey Tool: Example

Section 2: Provider

"Hospital and primary care provider contracts specify the provision of emergency care access seven days per week, twenty-four hours a day."

- Team reviews contract and verifies above language is present in current contracts.
- Team reviews supporting documents which demonstrate plan monitoring of emergency access.

Examples of Structural and/or Operational Deficiencies

- No Medicaid Handbook or Certificate of Coverage
- No dissemination of member I.D. cards
- No prior authorization or utilization review criteria decision criteria
- Non-compliant Complaint/Grievance timeframes
- QI Program not implemented
- No Member Newsletter

Post Site Visit

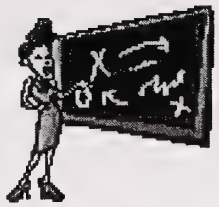
- Goal is dissemination of report within 30 days
- Plan must address criteria receiving score of 'Incomplete' or 'Fail'
- Written Action Plan
- Review & approval/disapproval by state
- Readdress issues at following onsite visit

Lessons Learned

"Be prepared for turf issues"

Lessons Learned

"Develop reviewer guidelines"

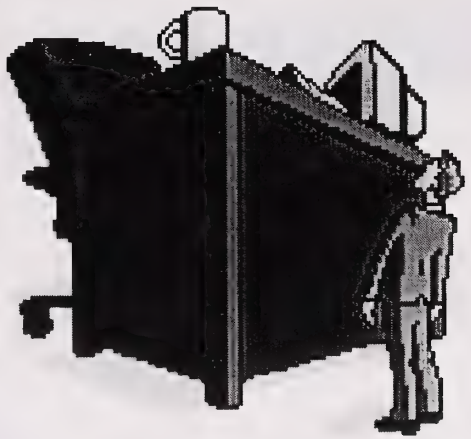


Lessons Learned

"Be consistent"

Lessons Learned

"Encourage senior management to attend site visits"



Lessons Learned

"Expect to Modify Over Time"

Other Performance Monitoring Initiatives

- Consumer Survey
- External Quality Review
- HEDIS Analysis
- Consumer Guide

Contact Information

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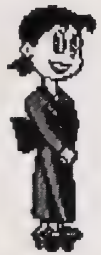

Safeguarding Quality: Structural and Operational Standards

Karen Peed
Minnesota Department of Human Services

Karen Peed

Karen Peed has been with the Minnesota Department of Human Services since 1986. She has held positions relating to long term care and community based services, as well as health care. She is currently the Contract Management and Development Supervisor in the Minnesota Department of Human Services Health Care Purchasing and Service Delivery Division. Minnesota currently enrolls almost 325,000 people in managed care plans.

Implementing QISMC

Karen Peed

Purchasing and Service Delivery Division

Health Care Administration

Minnesota Department of Human Services

Implementing QISMC

- What's a state to do?
- Minnesota's Process

Minnesota Issues

- Minnesota's Health Care Regulatory Structure
- Department of Human Services Capacity
- Health Plan Administrative Load

Minnesota's Health Care Regulatory Structure

- Minnesota Department of Health
  - Regulates HMOs for access and quality
- Minnesota Department of Commerce
  - Regulates HMOs for financial solvency
- Minnesota Department of Human Services
  - Medicaid Agency

DHS Health Care Administration

- Eligibility Policy and Coverage Policy for Minnesota Health Care Programs:
  - Medicaid (Medical Assistance),
  - GAMC and
  - MinnesotaCare
- Rates for Minnesota Health Care Programs
  - Fee-for-service
  - Prepaid Health Care Programs

DHS Health Care Administration

- Performance Measurement and Quality Improvement
- Ombudsman Office

Other DHS Administrations

- Management Information Systems
- Appeals

Cooperation Between Agencies

- Contract between DHS and MDH specifies additional review per DHS requirements
  - Overlay of DHS requirements on MDH reviews
    - Quality Reviews
    - Certificate of Coverage Approval Process
    - Financial Reports for DHS Programs

DHS Capacity

- Contract Managers are responsible for one or two health plans
- Monitoring of most quality of care issues has been by complaint or exception
- Review of current contract provisions
  - Additional Monitoring Required

Health Plan Administrative Load

- State and federal regulations add administrative costs serving public populations
- Paradox:
  - Treat Public program enrollees like the general population
  - Treat Public Program enrollees differently
    - Access parameters, Interpreters
    - QI initiatives
    - Reporting requirements

Current Challenges: Next Steps

- Develop plan for phasing in those QISMC domains not covered by state law, rule or contract provisions
- Develop a monitoring process that is not unduly costly and that focuses on quality for public program enrollees
  - Monitoring Delegated Functions

Implementing QISMC

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Purchasing and Service Delivery Division

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Safeguarding Quality: Structural and Operational Standards

William Tulloch
National Committee for Quality Assurance

William F. Tulloch, MA

Bill is a Senior Accreditation Manager who has been with NCQA since 1997, participating in and coordinating surveys for the MCO, CVO, and MBHO programs. In addition to his survey work, Bill has made educational presentations for NCQA, and was one of the leaders of the team that adapted the MCO DCT/report template and electronic roadmaps for the 1998, 1999, and 2000 survey years.

Bill attended Williams College for his undergraduate work, and has a Master's in Economics from the University of Maryland. For seven years prior to joining NCQA, Bill worked with a health care consulting firm, HTA (now Covance), in Washington, DC, helping medical product manufacturers work in the managed care setting. During his undergraduate years, Bill co-authored two papers on the psychology of juror decision-making, based on original research.

NCQA

Reviewing Managed Care Quality
September 26, 2000

William F. Tulloch
Senior Accreditation Manager

National Committee for Quality Assurance

- Private non-profit organization
- Established in 1990
- The nation's leading health care quality oversight organization
- Board consists of purchasers, consumers, health plans, providers, policy makers

Three ways of looking at quality

- Accreditation: Assessment of the strength of the core systems upon which high quality care and service depend.
- HEDIS: Performance measures to assess the results that health plans actually achieve.
- CAHPS: Consumer survey that evaluates members' experiences with care

What is Accreditation?

- Set of 50+ standards in up to 6 categories
- Focus on operations, structure and process
- Currently programs for MBHOs, PPOs, and MCOs
  - MCO combines all forms of quality measurement

What is HEDIS?

- A measurement tool that allows apples-to-apples comparisons
- 54 process and outcome measures
- A standardized member satisfaction survey (CAHPS 2.0H)

Setting Standards and Measures

- Rely on expert panels to determine standards and outcomes measures
- Panels also determine evaluation criteria
- Include stakeholders from all areas of health care

Standards Development Process

- Standards Committee includes industry, health plan, consumer, academics, and purchasers
- Preliminary research on new requirements
- New standards/revisions vetted internally and by Committee
- Public comment leads to revisions and Standards Committee and BOD approval

The Evolution of Accreditation: Protecting the Consumer

- Independent external review
- Similar specialist review of appeals
- Continued access
- Behavioral health requirements
- Provisional Credentialing

Accreditation: The Pre- Survey Process

- Begins 6 - 12 months out
- Application assessed for complexity
- NCQA requests more preliminary information
  - demographics
  - UM, Credentialing, Complaint activity
  - Quality efforts
  - Policies and procedures

Pre-Survey Process - Coordinator

- Internal staff designated as Accreditation Survey Coordinator (ASC)
- ASC serves as key contact for MCO
  - answers questions, further assesses uniqueness/complexity
- Performs documentation desk review, prepares team for on-site survey

Accreditation: The On-Site Process

- Teams of physicians, quality experts
  - Not typically NCQA staff
- Interviews, document reviews, file reviews, assessment of quality activities
- Extensive interaction with MCO staff
- Daily wrap-ups and final Summation Conference
  - Discuss general strengths and opportunities - not decision

On-Site Process -- Areas of Review

- Is the plan focused on continuous improvement? Do people have access to care?
- How thoroughly do they check providers' credentials?
- Does the plan work to keep people healthy?
- Who makes UM decisions? Are they timely? Fair? Consistent?
- Do grievance processes work?
- Are medical and mental health care coordinated?

Accreditation: Post-Survey Process

- Team member writes report
- Reviewed by Internal NCQA staff
- Comments requested from MCO - integrated as appropriate
- Review by expert panel - Review Oversight Committee
  - ROC is physician committee, all experts in managed care and NCQA surveyors, usually current Medical Directors

Post-Survey Process: Decision

- ROC reaches consensus
- Combines survey results with performance data
- Results in one of five status levels
  - Excellent, Commendable, Accredited, Provisional, and Denied
  - Set of recommendations
- Annual assessment of performance data - can change status

Accreditation Cycle

- To maintain accreditation, MCOs must be reviewed at least every 3 years
- If low survey score (typically Accredited or Provisional status) - resurvey in 1 year
- Resurvey focuses on opportunities only
- Each 3 year review on a full set of standards

Lessons Learned

- Improvement takes time
- Organizations tend to improve as they go through Accred cycles
- External Review/Accreditation help bring quality to the forefront
- Quality processes become ingrained

Lessons Learned

- Quality assessment must adapt to environmental realities
- Medicaid MCOs face unique challenges, but can still provide high-quality care/service
- Sixty-nine MCOs with Medicaid products have been reviewed
- 4 Excellent, 56 Commendable, 5 Accredited, 1 Provisional, 2 Denied, 1 Revoked

Safeguarding Quality: Structural and Operational Standards

Julie Tyler and Linda Oliver
Delmarva Foundation for Medical Care, Inc.

Julie Tyler, R.N., ABQUAURP

Julie Tyler, a Certified Quality Assurance Professional since 1994 received her R.N. from Rockford Memorial School of Nursing, Rockford, IL in 1976, and is a licensed registered nurse in Illinois, New Jersey, Maryland, and the District of Columbia. Ms. Tyler is pursuing a Bachelor's Degree in Health Care Administration at Kennedy Western University and will complete her degree in 2001.

Ms. Tyler serves as Vice President of State Programs with Delmarva Foundation for Medical Care, Inc. (DFMC), where she is responsible for operational oversight and coordinating DFMC's utilization, quality assurance, and managed care review activities. She also oversees budgeting and financial performance. In addition, Ms. Tyler is responsible for operations in the corporate and regional offices in five states and acts as liaison with Federal and State contractors.

Linda Oliver, R.N., PAHM

Linda Oliver holds an Associate Degree in Nursing from Prince George's College, Largo, MD, and a Certification in Managed Care from the Professional Academy for Health Care Management. She is pursuing a Bachelor's Degree in Health Care Administration at Kennedy Western University and will complete her degree in 2001.

Ms. Oliver is currently Managed Care Manager with Delmarva Foundation for Medical Care Inc., and is responsible for Maryland Independent Review Organization (IRO) daily operations and Medicaid utilization assurance review contracts in three states. She is also responsible for developing clinical studies/data collection tools, resource allocation and management, and developing and implementing review systems. Her managed care experience includes external quality assurance review of medicaid managed care plans in several states.

Safeguarding Quality: Structural And Operational Standards

Julie Tyler, RN, ABQUARP
Vice President of State Programs

Linda Oliver, RN, PAHM
Managed Care Review Manager

September 26, 2000

Who is Delmarva Foundation?

Medicare Peer Review Organization (PRO)

- Maryland
- District of Columbia (DC)

Who is Delmarva Foundation? (cont'd)

Medicaid Utilization Control Agent

- Maryland
- District of Columbia
- Vermont

Who is Delmarva Foundation? (cont'd)

- Medicaid Managed Care EQRO- 6 States
- Independent Assessment of Waiver Programs - 2 States

What Impacts Development of Performance Standards?

- Legal Actions
- Legislative Issues
- Individual State Regulatory Requirements
- Individual State QA Structure
- MCO Contractual Requirements

What Impacts MCO Compliance With Performance Standards?

- MCO Understanding of the State QA Plan
- MCO Organization and Resources
- Other Audit Activities

What Impacts MCO Compliance With Performance Standards? (cont'd)

- MCO Contract Period
- MCO Information Technology
- Enrollee "Lock-In" Period

MCO Performance Strengths

- QA Plan
- Committee Structure
- Credentialing
- Enrollee Rights
- Access and Availability
- UR Plan

MCO Challenges

- Encounter Data
- Profiling
- Outreach
- Health Education
- Outcomes Measures

EQRO Technical Assistance - MCOs

- Interpretation of Performance Standards
- Development of Quality Improvement Plans
- Development of Quality Improvement Studies
- Identifying Appropriate Monitoring Tools

EQRO Technical Assistance - States

- Policy Recommendations
- Contract Recommendations
- Monitoring Strategies
- Sampling Methodologies and Analysis
- QA Program Impact

VALIDATING MCO ENCOUNTER DATA

I. PURPOSE OF THE PROTOCOL

Encounter data (i.e., data on the distinct health care services provided to each Medicaid managed care enrollee) can be a useful source of information for States, as well as managed care organizations (MCOs) and Prepaid Health Plans (PHPs). Encounter data can be used to assess and improve quality, as well as monitor program integrity and determine capitation payment rates. However, in order for encounter data to effectively serve these purposes, it must be valid; i.e., complete and accurate. At present, completeness and accuracy of encounter data vary across States, MCOs, and PHPs. This protocol specifies processes for assessing the completeness and accuracy of encounter data submitted by MCOs and PHPs to the State. It also can assist in the improvement of the processes associated with the collection and submission of encounter data to State Medicaid agencies.

II. ORIGIN OF THE PROTOCOL

This protocol was developed from documents in both the public and private sectors, as well as interviews with personnel from three State Medicaid agencies (Alabama, Arizona and Oregon) experienced in the collection of encounter data. The documents reviewed included: 1) A Guide for States to Assist in the Collection and Analysis of Managed Care Data - second edition[1] (draft); 2)The MEDSTAT Group (MEDSTAT)'s Final Design Report for Verification of Encounter Data (part of the evaluation of the Medicare Choices Demonstration); and 3) the National Committee for Quality Assurance (NCQA)'s 1999 HEDIS® publication: *Volume 5, HEDIS Compliance Audit™ Standards and Guidelines.*

Beginning in 1995, HCFA and MEDSTAT began developing a series of tools to help State Medicaid agencies collect, validate and use encounter data for managed care program management and oversight. The tools and approaches developed for this contract were further refined and narrowed as part of the pseudo-claims (encounter data) validation project HCFA commissioned for the Medicare Choices Demonstration. For that project, HCFA specifically requested the development and application of a statistically reliable encounter data validation process using medical records as the reference information. MEDSTAT has used similar approaches for validating Medicaid managed care encounter data in a number of States, although these approaches have varied depending on the sophistication of the MCO/PHP and State information systems, the amount of encounter data collected, and each State's approach to improving the quality of encounter data. However, in all of these States, MEDSTAT has used an approach composed of three core activities:

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[1]The final version of this document is available online at: (www.hcfa.gov/medicaid/enguide2.htm)

(1) Assessment of the MCO or PHP's information system (IS);
(2) Analysis of MCO or PHP electronic encounter data for accuracy and completeness, including analysis of data reasonableness; and
(3) Review of medical records for additional confirmation of findings.

As part of the validation process, MEDSTAT has developed data collection instruments designed to evaluate, troubleshoot and facilitate improvement of encounter data and the information systems from which encounter data are produced. These instruments are intended to be completed by the MCO/PHP. The information obtained through these instruments is to be confirmed through face-to-face interviews of MCO/PHP staff by staff conducting the assessment of the MCO/PHP IS. The tools also are designed to be sensitive to the burden placed on an MCO/PHP by information collection, while maintaining the integrity of the information collected.

The NCQA HEDIS Compliance Audit tool was designed for auditing encounter data when encounter data are used to calculate certain performance measures. It also includes an IS assessment analogous to the first of the three elements of the MEDSTAT validation process. The NCQA tool is designed to gather information about MCOs'/PHPs' IS capabilities across all payors, rather than concentrating specifically on Medicaid or Medicare. The MEDSTAT tools were developed for Medicaid and Medicare only, although MEDSTAT also has companion approaches designed for commercial payors.

All the validation processes reviewed address the collection of information about the MCO's/PHP's IS capabilities as a first step. All also include medical record review as a component of the validation method. Each document provides a method to calculate a statistically valid sample size for the medical record review. Interviews with State Medicaid agency personnel found that their protocols also include medical record review.

The NCQA and MEDSTAT tools also are similar in that they: 1) contain pre-onsite visit questionnaires to be completed by MCO/PHP staff, and site visit interview forms to be completed by staff performing the IS assessment; 2) require MCOs/PHPs to provide information on the level of specificity of the diagnosis and procedure coding systems used; 3) devote considerable attention to medical record review; and 4) explore the issue of provider contracts and physician compensation. Provider contracts and compensation are significant elements in understanding the flow of encounter data from the providers to the MCOs/PHPs, which influences the timeliness and completeness of encounter data.

III. PROTOCOL OVERVIEW

This protocol is based almost entirely on the guide for States developed by MEDSTAT for validation of encounter data. The elements contained in MEDSTAT's document are consistent with the other documents reviewed.

This protocol also makes the following assumptions:

1. For the purposes of this protocol, an encounter refers to the electronic record of a service provided to an MCO/PHP enrollee by both institutional and practitioner providers (regardless of how the provider was paid) when the service would traditionally be a billable service under fee-for-service (FFS) reimbursement systems. Encounter data provides substantially the same type of information that is found on a claim form (e.g., UB-92 or HCFA 1500), but not necessarily in the same format.

2. The State will further specify an operational definition of an "encounter" and the types of encounters (e.g., physician, hospital, dental, vision, laboratory etc) for which encounter data are to be provided. The State will also specify the information (data fields) to be submitted for each type of encounter.

3. Encounter data can be considered "complete" when they can be used to describe the majority of services that have been provided to Medicaid beneficiaries who are enrollees of a MCO/PHP.[2]

4. Development of accurate and complete encounter data is an iterative process. Because encounter data are an outgrowth of MCO/PHP IS and data policies, it is often not possible for MCOs and PHPs to overcome all limitations in their IS and data policies in one year. As a result, in the first year that a State requires the submission of encounter data from its MCOs and PHPs, the data may be significantly incomplete and contain errors. Improving the completeness and accuracy will take place through continuous quality improvement (CQI) processes implemented year after year. Because of this, States will need to develop a "phased-in" approach for using standards for encounter data accuracy and completeness. "Phased-in" standards acknowledge the start-up issues affecting both MCO/PHPs and State Medicaid information systems receiving the encounter data.

5. The State will establish standards for encounter data accuracy and completeness.

6. States will specify objective standards to which encounter data submitted by their Medicaid MCOs/PHPs will be compared. These standards can be national, regional or State standards, as discussed in ACTIVITY 3 of this protocol.

The protocol consists of five sequential activities:

(1) Review of State requirements for collection and submission of encounter data;

---

[2]A State may decide to use other sources of information, such as an immunization registry, to substantiate or complete the information on the provision of services to Medicaid beneficiaries when the encounter data format does not easily or accurately capture the required information.

(2) Review of each MCO's/PHP's capability to produce accurate and complete encounter data;
(3) Analysis of MCO/PHP electronic encounter data for accuracy and completeness;
(4) Review of medical records, as appropriate, for additional confirmation of findings; and
(5) Submission of findings.

IV. PROTOCOL ACTIVITIES

ACTIVITY 1: Review State requirements for encounter data collection and submission.

Prior to performing encounter data validation, the External Quality Review Organization (EQRO)[3] needs to be familiar with the State's requirements for the collection, processing and submission of encounter data by MCOs and PHPs to the State. Some State requirements may be unique to a particular State program. States need to provide the EQRO with: 1) the State's requirements for collection and submission of encounter data by MCOs / PHPs. (These typically are found as specifications in the contracts between the State and the MCO / PHP.) 2) the data submission format specified by the State for MCO/PHP use; 3) the State's data dictionary; 4) an explanation of the information flow from the MCO/PHP to the State; 5) State standards for encounter data completeness and accuracy; 6) the time frames for data submission; 7) any historical problems experienced in this process; and 8) any other information relevant to encounter data validation.

The EQRO should also obtain from the State a listing of the types of encounter data to be validated. For each type of encounter data (e.g., office visit, inpatient, laboratory, et al.) to be validated, the State should specify the rates of missing, surplus, or erroneous encounters (as defined below) that it will find acceptable. The Acceptable Error Rates Specification Form below (or a similar form) can be used to summarize these specifications for each of the different types of encounter data.

The State also should specify acceptable rates of accuracy and completeness for each data field submitted for each encounter type. Attachment 1 contains MEDSTAT's recommendations for eventual accuracy and completeness standards for typical data fields. The EQRO will need to tailor this chart or generate a form or forms similar to Attachment 1 to identify accuracy and completeness standards specified by the State for all data fields the State requires for the different types of encounters. The standards should be more lenient in the early years of collecting

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[3]It is recognized that a State may choose an organization other than an EQRO as defined in Federal regulation to perform encounter data validation. However, for convenience, in this protocol we use the term "external quality review organization" (EQRO) to refer to any organization conducting validation of encounter data.

encounter data, and more stringent as MCO/PHP IS capabilities improve over time.

Acceptable Error Rates Specification Form		
Type of Encounter	**Error Type**	**Acceptable Error Rate**
Office Visit (excludes dental and mental health / substance abuse visits)	Missing	< %
	Surplus	< %
	Erroneous	< %
Office Visit - mental health / substance abuse	Missing	< %
	Surplus	< %
	Erroneous	< %
Office Visit - dental	Missing	< %
	Surplus	< %
	Erroneous	< %
Inpatient admission - (excludes mental health / substance abuse visits)	Missing	< %
	Surplus	< %
	Erroneous	< %
Inpatient admission - mental health / substance abuse	Missing	< %
	Surplus	< %
	Erroneous	< %
Other types of encounters as specified by the State; e.g., laboratory, pharmacy, physical therapy.	Missing	< %
	Surplus	< %
	Erroneous	< %
The EQRO should add as many additional rows to this chart as needed to incorporate all types of encounters specified by the State.		

Definitions:

Missing - encounters that occurred but are not represented by an electronic record.
Surplus - encounters which are represented by an electronic record, but either did not occur or duplicated other records.

Erroneous - encounters that occurred and are represented by an electronic record, but contain incorrect data elements.
Acceptable Error Rate - the maximum percentage of missing, surplus, or erroneous records that the State is willing to consider acceptable.

ACTIVITY 2: Review each MCO/PHP's capability to produce accurate and complete encounter data.

It is not feasible to review all encounters that beneficiaries have with MCO/PHP providers to assess whether they are completely and accurately recorded. Therefore, efficiently assessing encounter data completeness and accuracy involves: 1) determining if the MCO/PHP has structured its information system in a way that is *likely to* capture complete and accurate encounter data; and then, 2) examining more closely the data produced by the IS system to detect patterns that can indicate its completeness and accuracy. Activity 2 addresses the first of these two; the second is addressed in Activity 3.

Activity 2 attempts to answer the question: "To what degree is an MCO's or PHP's information system likely to produce complete and accurate information on all encounters between Medicaid enrollees and their providers (both institutions and practitioners). Reviewing the capability of each MCO/PHP to do so is accomplished through two activities:

1. Reviewing a standardized assessment of each MCO/PHP's IS capabilities; and

2. Interviewing personnel at each MCO/PHP to augment information obtained through the standardized assessment.

Step 1: Review or conduct a standardized assessment of each MCO/PHP's IS capabilities.

A standardized assessment (i.e., an assessment that does not vary by the individual performing the review or by the questions being asked) is necessary to promote reliable assessments of information systems. A standardized tool and approach for conducting such a review is found in Appendix A (Information System Capabilities Assessment (ISCA) for Managed Care Organizations and Prepaid Health Plans).

An MCO or PHP may already have undergone such an assessment of its IS. For example, assessment of IS is conducted when validating performance measures and performing accreditation reviews. The EQRO needs to determine if the MCO/PHP whose encounter data are being validated has already undergone such a review, and if so, if the review findings are current. If a recent IS assessment has been conducted, the EQRO should receive a copy of the findings, review the results of the prior assessment, and seek more recent information where necessary. If the MCO/PHP has not recently undergone an assessment, one will need to be conducted as part of encounter data validation consistent with the process described in Appendix A.

Whether the EQRO reviews the results of an earlier IS assessment or conducts its own assessment, the content included in Appendix A should be addressed. This content and the reasons for its significance include the following:

- ***General Information***

  1. *Managed Care Model Type:* Encounter data completeness and accuracy are likely to be better in staff model than non-staff model MCOs/PHPs.
  2. *Year of incorporation:* Encounter data accuracy and completeness is likely to be better in more mature MCOs/PHPs.
  3. *Member enrollment:* A larger enrollment may indicate that the MCO/PHP has more experience working with encounter data, but may also offer more opportunity for errors.

- ***Information Systems Capabilities***

  1. *System descriptions:* This provides an indication of the MCO's/PHP's overall level of data management sophistication.

- ***Data Acquisition Capabilities***

  1. *Forms used:* If the MCO/PHP is not using standard claims forms (e.g., UB 92 or HCFA 1500) or encounter forms which are similar to the HCFA 1500 or the UB 92, the forms used should be reviewed to ensure that they capture key data elements.
  2. *Submission methods:* Processing paper forms is more prone to error than direct electronic data submission.
  3. *Required data fields (data elements)*: Standard measures of plan performance typically require the availability of data on: patient date of birth/age, sex, place of service, diagnoses, procedures, dates of service, revenue codes, and provider specialty.
  4. *Number of diagnosis and procedure codes retained in data fields:* Data fields should allow a minimum of two diagnoses and two procedure codes to be retained.
  5. *Coding schemes:* Knowledge of the coding schemes used by the MCO/PHP is necessary to verify the accuracy of their use.

- ***Claims/Encounter Processing***

  1. *Processing issues:* Points in the process where errors are particularly likely to occur should be identified.
  2. *Edit checks:* MCOs/PHPs should have an established, standard set of edits which verify field content and consistency.

- ***Enrollment Issues***

  1. *Type and frequency of updates:* Infrequent or inaccurate updates will result in invalid encounter data.
  2. *Use of unique identifiers:* Without reliable identification of enrollees and providers, encounter data validity is not possible.

- ***Vendor/Contractor Data***

  1. *Data submission policies:* Consistently applied policies that leave no room for variations in interpretation increase the accuracy of the data submitted.
  2. *Contract requirements:* Data are more likely to be complete when they are required as a condition of payment than when they are optional.

- ***Provider Contracting Arrangements***

  1. *Compensation arrangements:* Salaried providers will submit data on a timely basis if data submission is a parameter in their contract with the MCO/PHP. Fee-for-service (FFS) providers have the greatest incentive to submit accurate and complete data, since their payment depends on it.
  2. *Contract requirements:* Data are more likely to be complete when they are required for payment.

After reviewing each MCO/PHP's IS Capabilities Assessment, the EQRO staff will record their analytic findings on a standard form such as the Information Systems Capabilities Assessment for Managed Care Organizations and Prepaid Health Plans - *Reviewer Worksheet and Interview Guide* (Reviewer Worksheet and Interview Guide) found in Appendix A. A form such as the Reviewer Worksheet and Interview Guide serves to document the findings of the EQRO staff when reviewing the IS Capabilities Assessment for each MCO, and to identify those issues to be addressed in Step 2, the follow-up interview with MCO/PHP personnel.

Step 2: Interview personnel at each MCO/PHP to augment information obtained through the standardized IS Capabilities Assessment.

Whether the EQRO is reviewing a previous assessment of MCO/ PHP IS capabilities, or whether it has asked the MCO/PHP to complete a new Information Systems Capabilities Assessment such as that in Appendix A, the written descriptions of IS capabilities submitted by the MCO/PHP must be reviewed and supplemented by conversations with the MCO/PHP staff to clarify or gather more detailed information regarding the MCO's / PHP's IS capabilities. The EQRO staff will interview appropriate MCO/PHP staff using a standard interview protocol such as the MCO/PHP IS Capabilities Assessment - *Reviewer Worksheet and Interview Guide* found in Appendix A. However, all information submitted by the MCO/PHP on its Information Systems

Capabilities Assessment might not need further clarification. In addition, not all questions in the Interview Guide may need to be discussed with MCO/PHP staff with respect to encounter data validation. This is because assessment of information systems can be conducted for different purposes; e.g., validation of performance measures and determining compliance with MCO/PHP structure and operational standards. Further, some questions in the Reviewer Worksheet and Interview Guide will need to be reworded for newly formed MCOs/PHPs. However, the following areas, at a minimum, should be fully described either in the MCO/PHP's written documentation of its IS or through subsequent follow-up discussions between the MCO/PHP and the EQRO.

Information Systems: Data Processing and Procedures

1. Data Base Management System (DBMS) Type
2. Programming language
3. Updating the program to meet changes in State requirements

Claims/Encounter Processing

1. Overview of the processing of encounter data submissions
2. Completeness of the data submitted
3. Policies/procedures for audits and edits

Claims/Encounter System Demonstration

1. Processes for merges and/or transfer of data
2. Processes for encounter data handling, logging and processes for adjudication
3. Audits performed to assure the quality and accuracy of the information and the timeliness of processing
4. Maintenance and updating of provider data

Enrollment Data

1. Verification of claims/encounter data
2. Frequency of information updates.
3. Management of enrollment/disenrollment information

Based on this review of the MCO's / PHP's IS capabilities, the EQRO should note for each encounter type listed in the Acceptable Error Rates Specification Form (described previously) whether or not there are concerns about certain types of encounter data, and note it in the fourth column in the chart below. This should trigger further investigation.

Acceptable Error Rates Specifications and Identified Areas of Concern Form			
Encounter Type	**Error Type**	**Acceptable Error Rate**	**Area of Concern (Yes / No)**
Office Visit - (excludes dental and mental health / substance abuse visits)	Missing	< %	
	Surplus	< %	
	Erroneous	< %	
Office Visit - mental health / substance abuse	Missing	< %	
	Surplus	< %	
	Erroneous	< %	
Office Visit - dental	Missing	< %	
	Surplus	< %	
	Erroneous	< %	
Inpatient admission - (excludes mental health / substance abuse visits)	Missing	< %	
	Surplus	< %	
	Erroneous	< %	
Inpatient admission - mental health / substance abuse	Missing	< %	
	Surplus	< %	
	Erroneous	< %	
Other types of encounters as specified by the State; e.g., laboratory, pharmacy, physical therapy.	Missing	< %	
	Surplus	< %	
	Erroneous	< %	
The EQRO should add as many additional rows to this chart as needed to incorporate all types of encounters specified by the State.	Missing	< %	
	Surplus	< %	
	Erroneous	< %	

ACTIVITY 3: Analyze electronic encounter data for completeness and accuracy.

This activity represents the core of the process that the EQRO will use to test the validity (completeness and accuracy) of the encounter data. Once the steps in this activity have been completed, the EQRO and the State will have an excellent assessment of whether the data can be

used for analysis. If the EQRO is unsure of the quality of the encounter data at the completion of Activity 3, then it should *not* proceed to the medical record review activity (Activity 4). Rather, it should either review the steps of this activity and identify areas where information did not satisfy the EQRO or it should seek additional assistance to determine why there is uncertainty about the quality of the encounter data. If the steps in Activity 3 are completed thoroughly and accurately, there should be little doubt about the quality and usefulness of the submitted encounter data.

In this activity, the EQRO undertakes analysis of each MCO's and PHP's encounter data through four steps. Information obtained from these four steps and the previously conducted IS Capabilities Assessment and the Structured Interview, should yield four classes of information available for each MCO/PHP:

1. ***General magnitude of missing encounter data.*** Evidence of whether the MCO/PHP has been unable to submit any encounter data and reasons for failures, such as the inability to process the encounter data without edits.

2. ***Types of potentially missing encounter data.*** MCOs/PHPs which have sub-capitated or sub-contractor relationships with providers often experience difficulty in receiving information from those providers. Knowledge of the MCO's/PHP's contractual relationships with providers will help identify specific areas to investigate for missing services.

3. ***Overall data quality issues.*** Identification of data quality problems such as inability to process or retain certain fields on the encounter data record. Some MCOs/PHPs may not currently have room in their systems to maintain all the information which is expected to be submitted.

4. ***MCO/PHP data issues.*** Problems with how the files are compiled and submitted to the States.

Step 1: Analyze information from the IS Capabilities Assessment and the follow-up structured interview with MCO/PHP staff.

At the completion of Activity 2, the EQRO will have an excellent description of the MCO/PHP's IS and should know what to expect when the MCO/PHP's data files are investigated. The information from Activity 2 is incorporated into a plan for testing the quality of the data. This plan specifies the areas that will be tested in the data (the areas of investigation) and the expected results. Having such a plan ensures that parts of the data quality review are not overlooked. For example, it is expected that MCOs that pay a substantial portion of their primary care providers on a capitated basis will have a lower encounter data submission rate than MCOs that pay their primary care providers predominantly on a FFS basis. As a part of a data quality test plan, provider groups would need to be identified by their type of payment and rates of outpatient visits per eligible beneficiary calculated. The rates of outpatient visits would then be compared to test

the assumption that capitated providers have a lower rate of encounter submission than FFS providers. If this assumption is not supported by the data, and the outpatient visit rates differ from the benchmark, then other questions need to be answered about the MCO's processing of FFS claims. This is an example of how the information from Activity 2 is incorporated into Activity 3, Step 1. Other questions and issues can be addressed in the same way.

Using information provided by the State in Activity 1, and information obtained from the MCO/PHP through the IS Capabilities Assessment and the Structured Interview, the EQRO staff will develop a data quality test plan that will:

- adjust their own error detection programming specifications to reflect those used by the MCO/PHP;
- adjust their own report specifications to match those used by the MCO/PHP;
- create *ad hoc* data investigation specifications, based on the information gleaned from the IS Capabilities Assessment and the interview;
- create *ad hoc* report writing specifications; and
- compile notes to assist in data interpretation.

Step 2: Inspect the MCO's/PHP's Encounter Data files

Step 2 and Step 3 of this Activity are closely inter-twined. To make the steps clearer, they have been broken into two parts because having two steps more accurately reflects the way a standard data quality review process would occur. When data are reviewed for accuracy and completeness, they are subjected to a macro and micro analysis. These steps are described separately to prevent the EQRO from rushing forward to generate a large number of reports and analyses before the basic integrity of the data have been verified. Step 2 represents the macro analysis; Step 3 represents the micro.

Step 2 describes a basic integrity check of the data files. It answers the questions: Are there data? Do they generally fit with expectations? Are they of sufficient basic quality to proceed with more complex analyses? In general, all of the analysis that is required in Step 2 should be highly automated and generated as a standard data review process. The analysis required in Step 2 can be separately performed on each of the different encounter data files (e.g., hospital, dental, ambulatory, etc.) for each of the data fields in those files, while the analysis described in Step 3 requires that encounter, eligibility, and provider data be linked together. The EQRO will obtain the encounter data to analyze either by accessing the State's information system or by receiving from the State an encounter data extract from the States' data system that replicates the data that the State has. In the latter case, the EQRO will access the data using its own analytical processes. The EQRO will inspect the files and perform the following activities:

1. Assure that the enrollment information that the State transfers to the MCO is accurately incorporated into the MCO information system and is being reported back to the State correctly. In many cases, MCO information systems do not use

the State's Medicaid identifier as the means for tracking enrollees. When the encounter data are reported to the State, the Medicaid ID must be reattached to the data file. In this step, the EQRO will verify that the Medicaid IDs are being reported correctly. As an additional, but not required, step, the EQRO could compare the encounter data file to a State eligibility file and check for accuracy of the IDs, and other eligibility information; (e.g., age, sex and eligibility category). This step is optional since in the majority of situations, the encounter data file that the EQRO is reviewing has been edited in the State system - where eligibility checking is one of the core elements. This step should be considered in those situations where the encounter data have not been edited in the State system.[4] In addition, the EQRO will determine whether there are encounter data for the majority of beneficiaries, rather than a large volume of data but only a few IDs. The primary focus of this step is the verification of the correct eligibility numbers. In other parts of this activity, analysis will be done to ensure that the scope and volume of services are consistent with the eligibles.

2. Apply general edit and consistency checks, such as verifying that critical fields contain non-missing values and that values are consistent across fields; e.g., pregnancy and related diagnoses and procedures are for individuals whose sex is coded as female.

3. Inspect the data fields for general validity (i.e., information for each critical field is within required ranges, and the volume of data is consistent with the MCO/PHP's enrollment).

4. Capture more detailed validity information from the encounter data fields used for reporting purposes.

The analysis includes a review of each data element and a general review of the volume of data by type or place of service. This review concentrates on two areas: field validation and completeness:

1. *Field validation*

- Percent present: required data fields are present on the file and have information in that field
- Percent valid: data in the field are of the requested type; i.e., numeric fields have numbers, character fields have characters, etc.
- Percent valid values: In those fields, the values are the expected values; e.g., are there valid ICD-9 codes in the diagnosis field, not just random numbers? This

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[4]In a few States, Medicaid programs have chosen to by-pass the MMIS and have MCOs submit data directly to an outside source. In these cases the eligibility checking may not be as intense as that done within the MMIS. In those cases the EQRO might choose to add this additional eligibility review.

review requires comparing the specific field to sources of information showing valid values. [5]

Field validation will require the use of State standards. Examples of eventual State standards are found in Attachment 1.

2. Data completeness

- Distribution by service type: determine whether there are data distributed as expected in the large data types: institutional, provider, pharmacy, dental, etc.
- Across time: determine the data volumes by month. Are all data types seen in all months? Is the data volume consistent across the months?

Step 3: Generate and Review Analytic Reports

Using simple statistical procedures such as measures of central tendency, univariate descriptive statistics and bivariate distributions, the EQRO will analyze the data to obtain a "data validity" overview of each MCO's/PHP's encounter data. This process will analyze and interpret data on: 1) submitted fields, 2) volume/consistency of encounter data, and 3) utilization rates.

Analyzing and Interpreting Data in Submitted Fields

There are three questions to be addressed in a field-specific review:

1. **Is there information in the field, and is that information of the type requested?** Each field will have a definition which will include data type (alpha, numeric, mixed) and size. The fields must be checked to determine whether the information is of the correct type and size. For example, if ICD-9 diagnosis codes have been requested, the field should have 5 digits. If CPT-4 codes are requested, the field should have 4 digits. If the State's Medicaid beneficiary ID is requested, the field should contain the correct number of letters and digits.

2. **Are the values valid?** When compared to an external standard, are the values in the field valid for that standard? For instance, if ICD-9 diagnosis codes have been requested, are the values in the diagnosis field valid ICD-9 diagnosis codes? A field could have 5 digits in it but those digits might not represent valid codes.

Findings for questions 1 and 2 could be recorded on a standard form such as that below:

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[5] This is a place where the information from the IS Assessment becomes critical. One of the things that will be asked is which version of the ICD-9 codes is used by the MCO. Often the State and the MCO maintain different versions of these files resulting in values being considered invalid when they really are valid.

Sample Form for Recording Evaluation of Submitted Fields								
Required Field	**Information present**		**Correct type of information**		**Correct size of information**		**Presence of valid value ?**	
	#	%	#	%	#	%	#	%
Enrollee ID								
Plan ID								
Provider ID								
Principal Diagnosis								
Procedure Code								
Date of Service								
Units of Service								
Others (continue adding fields as appropriate).								

3. **Are the values reasonable?** A frequency distribution of the values needs to be developed and then compared to an external standard to determine whether the values make sense for the submitted population. For instance, if one of the required fields is "place-of-service," there should be a reasonable distribution between inpatient hospital, outpatient hospital, emergency room and physician office. In this data review, the values in the fields could have passed the test in steps 1 and 2, but failed at this stage. A plan could submit data with a single valid value in a field; these data would pass steps 1 and 2 but fail step 3.

Analyzing and Interpreting Volume / Consistency of Encounter Data

This type of evaluation provides basic statistics on the encounter data. It describes, among other things, the number of Medicaid enrollees, the number of encounters, and counts and totals for various demographic subgroups, diagnoses and types of services. The EQRO should run frequency distributions on specific fields as well as on the variables created explicitly for data validation reporting purposes. The EQRO may also run distributions on subsets of variables and observations where the result indicates potential data validity concerns. For instance, a subset of rates of outpatient services by provider zip code might highlight missing zip codes in the edit file which results in the rejection of all encounters with that zip code. This initially looks like an overall low rate of services but by looking at a subset of a specific field and checking for

reasonableness, a different problem is detected. The EQRO also should generate univariate statistics (e.g., means, medians and modes) as appropriate on continuous and discrete data fields. The output produced for these reports should be checked for both reasonableness and to detect specific problems, such as entire categories of data missing from the regular data submissions.

The EQRO should also analyze encounter data for other volume/consistency dimensions. These dimensions can include time, provider type, type of service, and demographic groupings, but States may have additional dimensions (aid category) which also need to be included. This information allows the EQRO to look for trends such as the following:

- **Time** - This analysis would examine encounter data both by service date and by processing date to check consistency. MCOs/PHPs often have problems processing encounter data and in many cases these claims are processed sporadically. When such a situation is present, it can often be an indication of other problems within the MCO/ PHP's information system. After establishing the length of time between service dates and processing dates by MCO/PHP, the EQRO could compare these with existing benchmarks for data submission and processing.

- **Provider** - Encounter data validation can verify the presence of encounter data for all provider types and determine if there are significant fluctuations in patient visits per time period. In addition, information collected during the capabilities assessment will be used to identify missing encounter data for specific provider types. The distribution of encounter data will be compared by provider type with the benchmark information described above.

- **Service Type** - The EQRO should verify whether ancillary services (e.g., labs, x-rays, therapy, etc.) are evenly represented as visits. The clinical connection between the use of services is being evaluated. If a Medicaid beneficiary is receiving x-ray or lab tests, one would expect to see an office visit (or perhaps a hospital admission) in the same time frame. Other areas where reasonableness between the encounter data should be tested include: 1) relationship of outpatient visits to number of prescriptions, 2) relationship of primary to specialty care visits, and 3) outpatient services associated with inpatient admissions. Examination of the data in this way will reveal whether there are missing encounters.

- **Age- and Sex-Appropriate Diagnoses and Services** - The EQRO will determine if the diagnoses and services reflect expected care by age and sex. As an example, one would expect sex-specific diagnoses (such as endometriosis or undescended testes) and procedures (such as deliveries or hysterectomies) would have the patient's sex coded correctly. Conversely one would expect that men and women would not have procedures coded that cannot be performed on a person of that sex.

As part of the review, the EQRO will find it helpful to display the data quality findings

graphically. It is nearly always true that in these situations, "a picture is worth a thousand words." These graphs will be useful internally for identifying issues, and externally for conveying the results of the data quality review. An example of the type of chart that might be generated is a frequency distribution of the number of encounters per Medicaid enrollee. This chart shows how many enrollees had zero, one, two, three, etc. encounters. This chart can also be replicated by different age, sex, and race groupings, to see whether there are differences along these dimensions. These charts should be generated for all MCOs/PHPs in the aggregate, and for each MCO separately so that issues with a specific plan can be identified.

Analyzing and Interpreting Utilization Data

The EQRO also should routinely compile and review, on a periodic (e.g., monthly, bi-monthly, quarterly or other periodicity as directed by the State) basis, statistics displaying information on utilization rates overall and by specific diagnosis, procedure, service and provider types when appropriate. These reports initially should be generated both for each MCO/PHP and on the entire encounter data set for all MCOs/PHPs together to account for problems associated with small numbers of encounters for certain MCOs/PHPs. During the program start-up phase, many MCOs/PHPs may have very few encounters for some diagnoses and services, which would make their rates statistically imprecise.

One method for estimating the completeness of the encounter data for each MCO/PHP is to benchmark the utilization rates for a given MCO/PHP against utilization statistics from other sources. These benchmarks would be incorporated into the MCO/PHP-specific utilization reports. Utilization rates could be broken-out by patient demographics, diagnosis, type of service and type of provider.

Step 4: Compare findings to State-identified standards

The EQRO will next compare the encounter data submitted by each MCO/PHP to standards and benchmarks that are identified by the State. These standards can be obtained from a number of different sources, including: aggregate encounter data from all Medicaid MCOs/PHPs in that State or other States which are considered to be comparable, historical FFS Medicaid data in that State, or data from a State's Primary Care Case Management (PCCM) program. The State may also look to: commercial managed care plans, national standards, or other benchmarks. The State will need to identify such standards and document them using a form such as that found in Attachment 2: Table of Benchmark Utilization Rates. States will also need to specify acceptable variation from these standards. Both the standards and acceptable variations from the standards can be made more stringent over time.

For instance, when comparing encounter data utilization rates to a Medicaid FFS benchmark, one might expect to see a drop in emergency room utilization per member month under managed care. However, large, downward swings in other types of utilization (e.g., >30 percent drops in ambulatory care) may indicate incomplete encounter data rather than a change in provider practice

patterns. The EQRO should test their assumptions about changes in utilization under Medicaid managed care with the MCOs/PHPs and with the State, as a further test of the completeness of the encounter data.

The results of ACTIVITY 3 are used to form the basis for a long-term monitoring strategy for assessing the quality of the encounter data. As the data improve over time due to monitoring and validation, the EQRO will be able to design targeted validation strategies by using analytic testing on the encounter data files to identify problem areas requiring medical record review validation, thus allowing the conservation of resources by avoiding unfocused "broadside" medical record review.

ACTIVITY 4: Review of medical records for confirmation of findings of analysis of encounter data

Medical record review can provide additional verification of the information obtained from the preceding analysis of electronic encounter data for accuracy and completeness (Activity 3). However, medical record validation is a complex and resource-intensive process. While it can easily be used to validate specific areas of concern, it is not an efficient method for performing a more general validation of encounter data. As stated at the beginning of Activity 3, if the EQRO is unsure of the quality of the encounter data at the completion of Activity 3, then it should *not* proceed to medical record review. Rather, it should either review the steps in Activity 3 and identify areas where information did not satisfy the EQRO or it should seek additional assistance to determine why there is uncertainty about the quality of the encounter data. If the State is in the initial phase of collecting encounter data from its MCO or PHPs, there may be a time lag of as much as three years before the encounter data are of sufficient completeness and accuracy to warrant the investment in medical record review

Further, medical record review should not be used to validate information that is collected at another source and considered to be more accurate. For example, information collected as part of eligibility determination is considered the primary source for demographic information such as patient age, sex, and race. This eligibility data should be used as the source of demographic information when validating encounter files.

In this protocol, the following assumptions are made with respect to medical record review:

- Medical record review for encounter data validation is being performed independently of medical record review for evaluation of performance measures or other purposes, however, these reviews could be coordinated in an effort to reduce the burden on the MCOs/PHPs.

- When medical record review should begin, and how frequently it should be performed, will be decided by the State.

- One medical record review is determined by the State to be appropriate, the EQRO will draw a sample of medical records for validation on a regular and periodic basis specified by the State.

Validating encounter data using medical records must be approached as if it were a research question. There needs to be clear hypotheses, well defined populations, and stated error tolerances. A rigorous research design ensures that the results of this resource intensive effort will be meaningful and useful.

The approach to medical record validation depends on the questions/hypotheses to be addressed. Depending on the stated hypotheses, one would begin with a sample of encounters, enrollees, or both. The table below illustrates how two different questions are answered by using different sampling universes.

Examples of questions to be addressed	**sampling universe**	
	Encounters	Enrollees
Is the information found on the encounters accurate when compared to the medical record?	Use sample of encounters	
Are there electronic encounters for all the services that were provided to enrollees?		Use sample of enrollees

Another possible question may be: "Are the encounters fully coded for all diagnoses?" Often when providers submit encounters, they only provide the primary diagnosis code, since that is usually sufficient for payment. Another question might be "Are the procedures fully coded?" Providers might record on the encounter form only those procedures that historically have affected reimbursement. In such cases, additional procedures performed can only be discovered by reviewing the medical record. In this type of medical record validation, a sample of *encounters* is selected, and the medical records for those encounters are reviewed.

When one wants to determine whether all encounters have been received for services that were delivered, then a sample of *enrollees* is selected, and their medical records are reviewed against encounters. In this case, the EQRO would sample MCO/PHP enrollees rather than encounters for a specific time period. Services recorded in the medical record would be matched with those found on the encounters to assess the completeness and accuracy of encounter data. To reduce the number of medical records that must be located for each enrollee, the EQRO should consider limiting medical record review to a specific type of encounter, such as inpatient admissions or

physician office visits.

Where medical record review is performed is a complicated question and each solution has its own strengths and weaknesses. In all cases, the medical record must be located, the reviewers must be trained and experienced, the confidentiality of patient records must be maintained, and costs must be minimized. Balancing these four requirements is difficult and results in varied solutions that fit with the specifics of each particular situation. In many cases, reviewers decide to look at medical records away from the site of health care delivery and request that providers copy charts and send them to a central location. This approach places a large amount of the responsibility for locating the charts on the plans and providers, but also increases the number of charts that are located. Providers should be compensated for the direct costs of copying and submitting the files.

Step 1: Sampling for medical record review

When medical record review is to be undertaken, the EQRO may initially choose to conduct "trial" reviews of the encounter data using medical records previously obtained for other purposes, such as focused studies of clinical care topics. This trial review would provide an opportunity for the EQRO to acquire experience in using medical records specific to individual MCO/PHPs for encounter data validation, as well as highlighting community practice patterns with regard to developing encounters from medical records, without adding unnecessary administrative burden to the MCO/PHPs.

Once medical record review is to be conducted on a more routine basis, the size of the sample must be determined for each MCO/PHP. The size of the sample of medical records that must be drawn in order to make statistically valid inferences regarding the validity of the encounter data depends on a number of factors, including:

- The minimum error rate the State wants to be able to detect;
- The frequency with which the State wants to perform the review; and
- The subsets of encounter data the State intends to validate.

Because of these and other factors; e.g. the size of an MCO/PHP's enrollment and previous validation results, it may be statistically appropriate to determine different sample sizes for each MCO/PHP. However, it may be operationally more efficient (and also statistically valid) to specify the same sample size for all MCO/PHPs. The EQRO will need to determine the sample size for each MCO/PHP either as directed by the State, or, if the State allows the sample size to be determined by the EQRO, in consultation with a qualified statistician. Whether one sample size or multiple sample sizes will be used will be determined by the State, in consultation with the EQRO.

Once the sample size is determined, the EQRO will select this number of enrollees from each MCO/PHP for medical record review in order to calculate fault rates for each MCO/PHP. The

sampling must be performed using methodologically sound techniques that defend against sampling bias. The fault rate is the ratio of missing and erroneous records to the total number of encounters that took place during the time period being examined. A fault rate can be calculated for each encounter type.

It is anticipated that fault rates initially will be at least 30 percent. However, each MCO's/PHP's *targeted* fault rate should be below 5 percent ($f<0.05$) for each time period examined, and if possible, demonstrate a decrease over time. Consequently, for each time period examined, the EQRO will test the hypothesis that there is no difference between the services recorded in the medical record and those found in the encounter data (i.e., the "null" hypothesis). The ability of this test to reject the null hypothesis (H_0) when it should be rejected will depend on the size of the encounter sample, the size of the total population of true encounters, and the MCO's/PHP's actual fault rate. The EQRO should set sample sizes sufficient to estimate the fault rate for each type of encounter within each MCO/PHP, with equal precision for each time period to be studied.

Step 2: Review medical records and record findings on a standardized worksheet.

Fields to be validated through medical record review should include a few socio-demographic fields (e.g. date of birth, sex) that may be needed to identify the correct beneficiary. Typically, when medical records are selected for review, the provider is given the patient's name, age, and sex, the provider's name, and the target dates of service. This information helps the provider find the correct medical record. When the comparison is done between the encounter data and the medical record, this information is included in the data elements that are reviewed to further ensure that the correct record was actually reviewed. The demographic information on the medical record is not considered the definitive source of demographic information. It is included here to support the medical record review process. Other fields on the encounter data should be assessed so that it is possible to create measures of access and quality of care. These data elements include: date of service and the clinical codes (such as ICD-9-CM, HCPCS and CPT codes) that define diagnoses, procedures, and other services.

For diagnoses, the medical record review staff should review codes based on the diagnoses stated by the provider in the medical record, (not based on diagnoses indicated by their own judgement). Because of this, medical record review staff should be experienced clinical coding validators. Clinical coding validators should have substantial clinical background, including anatomy and physiology, pathology, microbiology, pharmacology, and disease process. They use this clinical understanding, combined with their knowledge of appropriate coding guidelines, to assign the right codes to a record. When a medical record lacks sufficient documentation to select the most specific code(s), clinical coding validators may consult with each other and other health care professionals to answer clinical questions.

Sources of coding errors, described by the Institute of Medicine in a study of the reliability of coded data in the National Hospital Discharge Survey included:

1) Incorrect selection or sequencing of principal diagnosis codes,
2) Incorrect selection of other individual codes,
3) Coding diagnoses or procedures not documented in the medical record,
4) Errors caused by mistakes in entering the data into a database, and
5) Failure to review the entire medical record.

Building on these ideas, the EQRO should develop an error categorization scheme to identify areas of incompleteness and inaccuracy. Codes assigned by the clinical coding validators will have three components, as separate data elements. Data can be reported for any single error component, or by any combination of these codes. These error components are:

Level: Identifies whether an encounter is present in the database. The presence or absence of an encounter determines the strategy followed by the reviewer to complete the review.

Type: Describes if codes or other data are correctly or incorrectly present or absent.

Source: Assigns the most likely reason for the type of error found. While this may be a subjective determination, it will be helpful when giving feedback to MCOs / PHPs so that they can target their data quality improvement processes.

Certain errors may be designated as "critical" for the purposes of an audit. These can be defined differently at varying points in time, because issues that are critical in encounter data validation change over time. For example, in the early rounds of validation, a State may wish to focus on diagnosis and procedure codes, and not on physician specialty or place-of-service. These fields are important, but are of little value if the MCOs are not able to produce accurate clinical coding. Once accurate diagnosis and procedure coding is taking place, knowing accurate specialty and place of service greatly increases the value of the data. Having "tiers of errors" (e.g., critical, serious, moderate, etc.) allows the State to move ahead with using encounter data that are not totally complete and accurate. This is an important goal. In future years, another tier of more refined error types will be added to the critical error types. Assigning the label of "critical" to the errors will be determined by the State.

The findings of each medical record review should be documented on a standardized form, such as the Medical Record Review Findings Tool for Encounter Data Validation found as Attachment 3. It is also important to provide documentation guidelines to the staff performing the medical record reviews. These guidelines should describe exactly how to document the findings of the medical record review. The guidelines also should be closely linked to the reporting requirements and the data elements chosen for validation, so they should be written after the error classification scheme is set. Written policies for interpretation of the documentation guidelines should include the following:

- Directions for reviewing medical records;
- Instructions on what to do when faced with conflicting documentation;

- Instructions on what to do when no code can be readily assigned;
- Use of optional codes;
- Definitions of what constitutes errors, and how to document them;
- List and location of approved reference materials (coding manuals, medical textbooks, etc.);
- Whom to consult for additional assistance.

ACTIVITY 5: Submission of findings

After the performance of Activities 1- 4, the EQRO will create data tables that display summary statistics for the information obtained from these activities for each MCO/PHP. Summarizing the information in tables makes it easier to evaluate, and highlights issues with respect to the accuracy and completeness of encounter data. A narrative will accompany these tables which will highlight MCO/PHP-specific issues.

In addition, a State at its discretion, may direct its EQRO to undertake technical assistance to its MCOs/PHPs to improve the accuracy and completeness of encounter data.

END OF PROTOCOL

EXAMPLES OF RECOMMENDED DATA QUALITY STANDARDS FOR EVALUATION OF SUBMITTED ENCOUNTER DATA FIELDS (Physician and Other Provider)		
Data Element	**Expectation**	**Validity Criteria**
Enrollee ID	Should be valid ID as found in the State's eligibility file. Can use State's ID unless State also accepts SSN.	100% valid
Enrollee Name	Should be captured in such a way that makes separating pieces of name easy. There may be some confidentiality issues that make this difficult to obtain. If collectable, expect data to be present and of good quality	85% present. Lengths should vary and there should be at least some last names >8 digits and some first names < 8 digits. This will validate that fields have not been truncated. Also verify that a high percentage have at least a middle initial.
Enrollee Date of Birth	Should not be missing and should be a valid date.	< 2% missing or invalid
MCO/PHP ID	Critical Data Element	100% valid
Provider ID	Should be an enrolled provider listed in provider enrollment file.	95% valid
Attending Provider ID	Should be an enrolled provider listed in provider enrollment file (also accept the MD license number if listed in provider enrollment file).	> 85% match with provider file using either provider ID or MD license number
Provider Location	Minimal requirement is county code, with zip code being strongly advised.	≥ 95% with valid county code ≥ 95% with valid zip code (if available)
Place of Service	Should be routinely coded, especially for physicians	≥ 95% valid for physicians ≥ 80% valid across all providers
Specialty Code	Coded mostly on physician and other practitioner, optional on other types of providers	Expect > 80% non-missing and valid on physician or other applicable provider type claims (e.g. other practitioners)

Principal Diagnosis	Well coded except by ancillary type providers	> 90% non-missing and valid codes (using ICD-9-CM lookup tables) for practitioner providers (not including transportation, lab and other ancillary providers)
Other Diagnosis	This is not expected to be coded on all claims even with applicable provider types, but should be coded with a fairly high frequency.	90% valid when present
Date of Service	Dates should be evenly distributed across time	If looking at a full year of data, 5-7% of the records should be distributed across each month.
Unit of Service (Quantity)	The number should be routinely coded	98% non-zero < 70% should be one if CPT code in range 99200-99215, 99241-99291
Procedure Code	This is a critical data element and should always be coded.	99% present (not zero, blank, 8- or 9-filled). 100% should be valid, State-approved codes. There should be a wide range of procedures with the same frequency as previously encountered.
Procedure Code Modifier	This is important to pick up to separate out surgical procedures/anesthesia/asst. Surgeon. It is not applicable for all procedure codes	> 20% non-missing. Expect a variety of modifiers both numeric (CPT) and Alpha (HCPCS). The more common codes which should appear with at least a minimal frequency are: 47 (anesthesia) and 80 (asst. surgeon).
EPSDT Indicator (All States might not have this.)	If this field is used, the beneficiary should be < 21 years of age and the provider should be certified to administer EPSDT screens.	95% enrollees < 21; 85% providers certified as EPSDT
Patient Discharge Status Code (Hospital)	Should be valid codes for inpatient claims with the most common code to be "Discharged to Home." For outpatient claims it can be coded as "not applicable ."	For inpatient claims, expect >90% "Discharged to Home." Expect 1-5% in all other values (except "not applicable" or "unknown").
Revenue Code (Hospital)	If facility uses UB92 claim form, should always be present.	100% valid.

Source: The MEDSTAT Group

TABLE OF BENCHMARK UTILIZATION RATES (for services incurred between XX/200x and YY/200x)			
Measure	**Value from MA FFS or PCCM**	**Value from Comparable State or States**	**Other Comparison Value**
Inpatient Discharges			
Inpatient LOS Overall By high volume DRGs By eligibility category/patient cohort			
Ambulatory Surgeries Total # surgeries By high volume CPT codes or by ambulatory surgery categories Total # surgeries/1,000 enrollees By high volume CPT codes or by ambulatory surgery categories			
Number of Providers Primary care physicians Specialists Other (e.g., mental health providers)			
Number of Enrollees Total # By eligibility category By age/sex categories			
Number of Users (i.e., enrollees who used services) Total # By eligibility category By age/sex categories			
Visits Total # #/enrollee #/user by visit categories (e.g., well child, well adult, ob/gyn, mental health, substance abuse, etc.)			
Other Services (e.g., prescription drug) Total # #/enrollee #/user by service category			

Sample Medical Record Review Findings Tool for Encounter Data Validation

Patient ID Number:_____ Medical Record Number:_____

Patient Name:_____ Completion Date:_____

Provider Name:_____ EQRO Reviewer:_____

Coder Reviewer:_____

Attending Physician Name:_____

Visit Dates: Begin Date:_____ End Date:_____

Required Review: (Check one)

[ ] Office Visit - (excludes dental and mental health / substance abuse visits)

[ ] Office Visit - mental health / substance abuse

[ ] Office Visit - dental

[ ] Inpatient admission - (excludes mental health / substance abuse visits)

[ ] Inpatient admission - mental health / substance abuse

[ ] Other types of encounters as specified bythe State; e.g., laboratory, pharmacy, physical therapy. Specify:_____

Diagnosis Codes and Descriptions				
	Diagnosis Code	**Match**	**No Match**	**Diagnosis Description**
a.				
b.				
c.				
d.				
If the diagnoses in the record do not match the billed information, write the correct diagnosis description(s) on the lines provided.				

Procedure Codes and Descriptions				
	Procedure Code	**Match**	**No Match**	**Procedure Description**
a.				
b.				
c.				
d.				
e.				
f.				
If the procedures in the record do not match the billed information, write the correct procedure description(s) in the spaces provided.				

Revenue Center Codes and Descriptions						
	Revenue Center Codes	**Revenue Center Descriptions**	**Match**	**No Match**	**Correct Revenue Center Description**	**Correct Code**
a.						
b.						
c.						
d.						
e.						
If revenue centers in the record do not match the billed information, write the correct revenue center Description(s) in the spaces provided.						

NOTE: The EQRO should tailor and add to this form to address all data fields under review.

END OF PROTOCOL ATTACHMENTS

APPENDIX A

INFORMATION SYSTEMS CAPABILITIES ASSESSMENT FOR MANAGED CARE ORGANIZATIONS / PREPAID HEALTH PLANS

I. PURPOSE OF THE ASSESSMENT

Knowledge of the capabilities of a Managed Care Organization (MCO)'s or Prepaid Health Plan (PHP)'s Information Systems (IS) is essential to effectively and efficiently:

- validate MCO/PHP encounter data,
- calculate or validate MCO/PHP performance measures, and
- assess an MCO/PHP's capacity to well manage the health care of its enrollees.

The purpose of this assessment is to specify the desired capabilities of MCO/PHP ISs and to pose standard questions to be used to assess the strength of an MCO/PHP with respect to these capabilities. This will assist an EQRO[1] to assess the extent to which an MCO/PHP IS is capable of producing valid encounter data, performance measures, and other data necessary to support quality assessment and improvement, as well as managing the care delivered to its enrollees.

Some States assess the capabilities of MCO/PHP information systems as part of pre-contracting, contract compliance or contract renewal activities. If an assessment has been completed by the State through these or other means; e.g., private sector accreditation or performance measures validation, and the information gathered is the same as or consistent with what is described in this assessment, it may not be necessary to repeat this assessment process. However, information from a previously conducted assessment must be accessible to EQRO reviewers.

II. ORIGIN OF THE ASSESSMENT TOOL

A number of public and private sector protocols and tools were examined to promote consistency between this assessment and similar public and private sector activities. These included: 1) the National Committee for Quality Assurance's (NCQA) 1999 HEDIS® publication: *Volume 5, HEDIS Compliance Audit™ Standards and Guidelines*; 2) tools used by the Island Peer Review Organization (IPRO) in their audits of HEDIS measures; and 3) documents from the MEDSTAT Group, Inc., published in conjunction with work performed for HCFA in 1997 and 1998. All these protocols include an assessment of the structure and integrity of the MCO's underlying

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[1] It is recognized that a State may choose an organization other than an EQRO as defined in Federal regulation to conduct as assessment of MCO/PHP Information Systems (IS). However, for convenience, in this document we use the term "external quality review organization" (EQRO) to refer to any organization conducting an assessment of an MCO/PHP IS.

information system, and of the MCO's ability to collect valid data from a variety of sources internal and external to the organization.

III. OVERVIEW OF THE ASSESSMENT

Assessment of MCO/PHP Information Systems is a four-step process. The first step involves the collection of standard information about each MCO or PHP's IS. This is accomplished by having the MCO/ PHP complete an *Information Systems Capability Assessment (ISCA) for Managed Care Organizations and Prepaid Health Plans*. The ISCA is an information collection tool provided to the MCO/PHP by the State or its EQRO. The State or EQRO will define a time frame in which the MCP/PHP is expected to complete and return the tool. Data will be recorded on the tool by the MCO/PHP. Documents from the MCO/PHP are also requested throughout the tool, and are summarized on the checklist at the end of this assessment tool. These are to be attached to the tool and should be identified as applicable to the numbered item on the tool (e.g., II.B.3, or IV.6). The tool itself is based on that produced by MEDSTAT Group, Inc., with some additional elements included to address the multiple purposes of performing assessments of information systems.

The second and third steps include review of the ISCA information by EQRO staff, and interactive sessions with MCO/PHP staff to: 1) validate the ISCA, and 2) gather additional information to assess the integrity of the MCO/PHP's information system. The EQRO will use the *Managed Care Organization Information System Review: Worksheet & Interview Guide* to conduct interviews with MCO/PHP staff who completed the ISCA, as well as other necessary MCO/PHP staff. The worksheet is an annotated version of the ISCA tool, with examples of the types of answers a reviewer should expect to receive, along with additional notes relative to the issues being pursued. During an onsite visit, EQRO staff can explore in more detail the responses submitted by the MCO/PHP on the ISCA. The space to record answers can be used by the reviewers to write interview notes, or document specific issues identified during pre-visit analysis that need to be pursued with the MCO/PHP during the onsite visit.

The fourth and final step is analyzing the findings from both the completed *Information Systems Capability Assessment (ISCA) for Managed Care Organizations and Prepaid Health Plans,* and the follow-up discussions with MCO/PHP staff.

IV. ASSESSMENT ACTIVITIES

ACTIVITY 1: The MCO/PHP completes the Information Systems Capabilities Assessment (ISCA)

The MCO/PHP is provided a copy of the ISCA (enclosed in the following section) to complete. Completing the ISCA requires that the MCO/PHP provide all requested documentation identified on a checklist at the end of the assessment tool, and return it to the EQRO within a State-defined

time frame. The EQRO may wish to provide the ISCA in an electronic format to the MCO/PHP to facilitate completion and to ensure legibility of the information being returned.

ACTIVITY 2: EQRO review of the completed ISCA and accompanying documents.

The EQRO reviews the completed ISCA and accompanying documents, assessing the adequacy of MCO/PHP policies and procedures as portrayed by the information submitted by the MCO/PHP on the ISCA. MCO/PHP answers should be evaluated against the standards established by the State for: 1) MCO/PHP information systems, 2) calculating and reporting specific plan-level performance measures, and 3) collecting and submitting encounter data to the State. Where an answer seems incomplete, or indicates an inadequate process, the EQRO will note that section for follow-up and further review during the onsite activities. This will help to focus the onsite process on those specific policies, procedures, and documentation most likely to affect the integrity of information collected by the MCO.

ACTIVITY 3: Follow-up interviews with MCO/ PHP staff

The EQRO reviewer(s) conduct(s) interviews with MCO/PHP staff responsible for completing the ISCA, as well as additional staff responsible for aspects of the MCO/PHP's information systems function. The interviews focus on the topics outlined in the structured ISCA interview guide, with additional topics covered as necessary based on the pre-onsite analysis of the ISCA.

ACTIVITY 4: Analysis of information obtained through ISCA and follow-up interviews.

The EQRO will write a statement of findings about the MCO/PHP's information systems and the implications of the findings for the following activities, as directed by the State:

1) the completeness and accuracy of any encounter data collected and submitted to the State;
2) calculation or validation of performance measures;
3) the ability of the MCO/PHP to conduct quality assessment and improvement initiatives; and
4) the ability of the MCO/PHP to oversee and manage the delivery of health care to its enrollees.

I. GENERAL INFORMATION

Please provide the following general information:

Note: The information requested below pertains to the collection and processing of data for an MCO/PHP's Medicaid line of business. In many situations, if not most, this may be no different than how an MCO/PHP collects and processes commercial or Medicare data. However, for questions which may address areas where Medicaid data is managed differently than commercial or other data, please provide the answers to the questions as they relate to Medicaid enrollees and Medicaid data.

A. Contact Information

Please insert (or verify the accuracy of) the MCO/PHP identification information below, including the MCO/PHP name, MCO/PHP contact name and title, mailing address, telephone and fax numbers, and E-mail address, if applicable.

MCO/PHP Name:	
Contact Name and Title:	
Mailing address:	
Phone number:	
Fax number:	
E-mail address:	

B. Managed Care Model Type (Please circle one, or specify "other".)

MCO-staff model MCO-group model MCO-IPA model MCO-mixed model PHP

Other - specify:_____

C. Year Incorporated _____

D. Member Enrollment for the Last Three Years.

INSURER	Year 1:_____	Year 2 _____	Year 3:_____
Privately Insured			
Medicare			
Medicaid			
Other			

E. Has your organization ever undergone a formal information systems capability assessment?

Circle a response: Yes No

If yes, who performed the assessment? _____

When was the assessment completed? _____

NOTE: If your MCO/PHP's information system has been formally assessed in the recent past (2 years or less), please attach a copy of the assessment report. Complete only those sections of the ISCA that are not covered by or have changed since the formal assessment was conducted.

II. INFORMATION SYSTEMS: DATA PROCESSING PROCEDURES & PERSONNEL

1. What data base management system(s) (DBMS) do/does your organization use to store Medicaid claims and encounter data?

_____

_____

_____

_____

2. How would you characterize this/these DBMSs? *(Circle all that apply.)*

A. Relational	E. Network
B. Hierarchial	F. Flat File
C. Indexed	G. Proprietary
D. Other	H. Don't Know

3. Into what DBMS(s), if any, do you extract relevant Medicaid encounter/claim/enrollment detail for analytic reporting purposes?

_____

_____

_____

_____

4. How would you characterize this/these DBMS(s)? *(Circle all that apply.)*

A. Relational	E. Network
B. Hierarchical	F. Flat File
C. Indexed	G. Proprietary
D. Other	H. Don't Know

5. What programming language(s) do your programmers use to create Medicaid data extracts or analytic reports? How many programmers are trained and capable of modifying these programs?

_____

_____

_____

_____

6. Do you calculate defect rates for programs?

Circle your response. Yes No

If yes, what methods do you use?

_____

_____

_____

_____

What was the most recent time period? _____

What were the results? _____

_____

_____

_____

7. Do you rely on any quantitative measures of programmer performance? If so, what method(s) do you use?

_____

_____

_____

8. Approximately what percentage of your organization's programming work is outsourced?

_____%

9. What is the average experience, in years, of programmers in your organization?

10. Approximately how much resources (time, money) is spent on training per programmer per year? What type of standard training for programmers is provided? What type of additional training is provided?

11. What is the programmer turnover rate for each of the last 3 years (new programmers per year/total programmers)?

Year 1 (200x) : _____ % Year 2 (200x): _____ % Year 3 (200x): _____ %

12. Outline the steps of the maintenance cycle for your State's mandated Medicaid reporting requirement(s). Include any tasks related to documentation, debugging, roll out, training, etc. The level of detail should result in 10-25 steps in the outline.

13. What is the process for version control when code is revised?

14. How does your organization know if changes to the claims/encounter/enrollment tracking system affect required reporting to the State Medicaid program? What prompts your organization to change these systems?

15. Who is responsible for your organization meeting the State Medicaid reporting requirements (CEO, CFO, COO)?

16. Staffing

16a. Describe the Medicaid data processing organization in terms of staffing and their expected productivity goals. What is the overall daily, monthly and annual productivity of overall department and by processor?

16b. Describe processor training from new hire to refresher courses for seasoned processors.

16c. What is the average tenure of the staff? What is annual turnover?

17. Security

17a. Describe how loss of Medicaid claim and encounter and other related data is prevented when systems fail? How frequently are system back-ups performed? Where is back-up data stored?

17b. How is Medicaid data corruption prevented due to system failure or to program error?

17c. Describe the controls used to assure all Medicaid claims data entered into the system is fully accounted for (e.g., batch control sheets).

17d. Describe the provisions in place for physical security of the computer system and manual files:

- Premises
- Documents
- Computer facilities
- Terminal access and levels of security

17e. What other individuals have access to the computer system? Customers? Providers? Describe their access and the security that is maintained restricting or controlling such access.

III. DATA ACQUISITION CAPABILITIES

The purpose of this section is to obtain a high-level understanding of how you collect and maintain claims/encounters, enrollment information and data on ancillary services such as prescription drugs.

A. Administrative Data (Claims and Encounter Data)

This section requests information on input data sources (e.g., paper and electronic claims) and on the transaction system(s) you use.

1. Do you use standard claims or encounter forms for the following? If yes, please specify (e.g., HCFA 1500, UB 92)

DATA SOURCE	NO	YES	IF YES, PLEASE SPECIFY
Hospital			
Physician			
Drug			
Nursing Home			
Home Health			
Mental health			
Other			

2. We would like to understand how claims or encounters are submitted to your plan. We are also interested in an estimate of what percentage (if any) of services provided to your enrollees by all providers serving your Medicaid enrollees are NOT submitted as claims or encounters and therefore are not represented in your administrative data. Please fill in the following table with the appropriate percentages:

	CLAIMS OR ENCOUNTER TYPES						
MEDIUM	Hospital	PCP	Specialist Physician	Dental	Mental health/ Substance abuse	Drug	Other
Claims/encounters submitted electronically							
Claims/encounters submitted on paper							
Services not submitted as claims or encounters							
AL	100%	100%	100%	100%	100%	100%	100%

3. Please document whether the following data elements (data fields) are required for each of the types of Medicaid claims/encounters identified below. If required, enter an "R" in the appropriate box.

CLAIMS/ENCOUNTER TYPES

DATA ELEMENTS	Hospital	Primary Care Physician	Specialist Physician	Mental Health/ Substance Abuse	Dental	Drug	other
Patient Gender							
Patient DOB/Age							
Diagnosis							
Procedure							
First Date of Service							
Last Date of Service							
Revenue Code							
Provider Specialty							

4. How many diagnoses and procedures are captured on each claim? On each encounter?

	Claim		Encounter	
	Diagnoses	Procedures	Diagnoses	Procedures
Institutional Data				
Professional Data				

5a. Can you distinguish between principal and secondary diagnoses?

Circle your response. Yes No

5b. If "yes," to 5a, above, how do you distinguish between principal and secondary diagnoses?

_____

_____

_____

6. Please explain what happens if a Medicaid claim/encounter is submitted and one or more required fields are missing, incomplete or invalid. For example, if diagnosis is not coded, is the claims examiner required by the system to use an on-line software product like AutoCoder to determine the correct ICD-9 code?

Institutional Data: _____

_____

_____

_____

Professional Data: _____

_____

_____

_____

7. What steps do you take to verify the accuracy of submitted information (e.g., procedure code-diagnosis edits, gender-diagnosis edits, gender-procedure code edits)?

Institutional Data: _____

_____

_____

_____

Professional Data: _____

_____

_____

_____

_____

8. Under what circumstances can claims processors change Medicaid claims/encounter information?

9. Identify any instance where the content of a field is intentionally different from the description or intended use of the field. For example, if the dependent's SSN is unknown, do you enter the member's SSN instead?

10a. How are Medicaid claims/encounters received?

SOURCE	Received Directly from Provider	Submitted through an Intermediary
Hospital		
Physician		
Pharmacy		
Nursing Home		
Home Health		
Mental health		
Other		

10b. If the data are received through an intermediary, what changes, if any, are made to the data?

_____

_____

_____

_____

11. Please estimate the percentage of Medicaid claims/encounters that are coded using the following coding schemes:

CODING SCHEME	Inpatient Diagnosis	Inpatient Procedure	Ambulatory/ Outpatient Diagnosis	Ambulatory/ Outpatient Procedure	Drug
ICD-9-CM					
CPT-4					
HCPCS					
DSM-IV					
National Drug Code					
Internally Developed					
Other (specify)					
Not required					
TOTAL	100%	100%	100%	100%	100%

12. Please identify all systems through which service and utilization data for the Medicaid population are processed.

_____

_____

_____

_____

_____

13. Please describe any major systems changes/updates that have taken place in the last three years in your Medicaid claims or encounter system *(be sure to provide specific dates on which changes were implemented).*

    - New system purchased and installed to replace old system.
    - New system purchased and installed to replace most of old system; old system still used.
    - Major enhancements to old system (what kinds of enhancements?).
    - New product line adjudicated on old system.
    - Conversion of a product line from one system to another.

    _____

    _____

    _____

    _____

14. In your opinion, have any of these changes influenced, even temporarily, the quality and/or completeness of the Medicaid data that are collected? If so, how and when?

    _____

    _____

    _____

    _____

15. How many years of Medicaid data are retained on-line? How is historical Medicaid data accessed when needed?

    _____

    _____

    _____

    _____

16. How much Medicaid data is processed on-line vs. batch? If batch, how often are they run?

17. How complete are the Medicaid data three months after the close of the reporting period? How is completeness estimated? How is completeness defined?

18. What is your policy regarding Medicaid claim/encounter audits? Are Medicaid encounters audited regularly? Randomly? What are the standards regarding timeliness of processing?

19. Please provide detail on system edits that are targeted to field content, consistency. Are diagnostic and procedure codes edited for validity?

20. Please complete the following table for Medicaid claims and encounter data and other Medicaid administrative data. Provide any documentation that should be reviewed to explain the data that is being submitted.

	Claims	Encounters	Other Administrative Data
Percent of total service volume			
Percent complete			
How are the above statistics quantified?			
Incentives for data submission			

21. Describe the Medicaid claims/encounter suspend ("pend") process including timeliness of reconciling pended services.

22. Describe how Medicaid claims are suspended/pended for medical review, for non approval due to missing authorization code(s) or for other reasons. What triggers a processor to follow up on "pended" claims? How frequent are these triggers?

_____

_____

_____

_____

23. If any Medicaid services/providers are capitated, have you performed studies on the completeness of the information collected on capitated services? If yes, what were the results?

_____

_____

_____

_____

24a. Identify the claim/encounter system(s) for each product line offered to Medicaid enrollees. (Note: Typically, there is just one product line offered to Medicaid enrollees, but there may be some circumstances in which a MCO/PHP offers additional product lines to the State; e.g., S-CHIP, partial risk products.

Systems Used to Process	**Product Line:** _____	**Product Line:** _____	**Product Line:** _____
Fee-for-service (indemnity) claims			
Capitated service encounters			
Clinic patient registrations			
Pharmacy claims			
Other (describe)			

24b. If multiple systems are used to process claims for the Medicaid product line, document how claims/encounters are ultimately merged into Medicaid-specific files--and on which platform? Note which merges or data transfers or downloads are automated and which rely on manual processes.

Are these merges and/or transfers performed in batch? With what frequency?

24c. Beginning with receipt of a Medicaid claim in-house, describe the claim handling, logging and processes that precede adjudication. When are Medicaid claims assigned a document control number and logged or scanned into the system? When are Medicaid claims microfilmed? If there is a delay in microfilming, how do processors access a claim that is logged into the system, but is not yet filmed?

24d. Please provide a detailed description of each system or process that is involved in adjudicating:

- A professional encounter(s) for a capitated service (e.g., child immunizations that arrive separately from the office visit.)

_____

_____

_____

_____

- A hospital claim for a delivery or for a newborn who exceeds its mother's stay.

_____

_____

_____

_____

24e. Discuss which decisions in processing a Medicaid claim/encounter are automated, which are prompted by automated messages appearing on the screen, and which are manual. Document the opportunities a processor has for overriding the system manually. Is there a report documenting overrides or "exceptions" generated on each processor and reviewed by the claim supervisor? Please describe this report.

_____

_____

_____

_____

_____

_____

_____

_____

24f. Are there any outside parties or contractors used to complete adjudication, including but not limited to:

- ☐ Bill auditors (hospital claims, claims over a certain dollar amount)
- ☐ Peer or medical reviewers
- ☐ Sources for additional charge data ("usual & customary")
- ☐ Bill "repricing" for carved out benefits (mental health, substance abuse)

How is this data incorporated into your organization's data?

_____

_____

_____

_____

24g. Describe the system's editing capabilities that assure that Medicaid claims are adjudicated correctly. Provide a list of the specific edits that are performed on claims as they are adjudicated, and note: 1) whether the edits are performed pre- or post-payment; and 2) which are manual and which are automated functions.

_____

_____

_____

_____

24h. Discuss the routine and non-routine (ad hoc or special) audits that are performed on claims/encounters to assure the quality and accuracy and timeliness of processing. Note which audits are performed per processor, which rely on targeted samples and which use random sampling techniques. What is the total percentage of claims on-hand that are audited through these QA processes? How frequently?

_____

_____

24i. Please describe how Medicaid eligibility files are updated, how frequently and who has "change" authority. How and when does Medicaid eligibility verification take place?

24j. How are encounters for capitated services handled by payment functions? What message appears to notify processors that they are handling a capitated service?

24k. Describe how your systems and procedures handle validation and payment of Medicaid claims when procedure codes are not provided.

24l. Where does the system-generated output (EOBs, letters, etc.) reside? In-house? In a separate facility? If located elsewhere, how is such work tracked and accounted for?

25a. Describe all performance monitoring standards for Medicaid claims/encounters processing and recent actual performance results.

25b. Describe processor-specific performance goals and supervision of actual vs. target performance. Do processors have to meet goals for processing speed? Do they have to meet goals for accuracy?

25c. How is performance against targets figured into the official performance appraisal process? Into processor and supervisor compensation?

B. Enrollment System

1. Please describe any major changes/updates that have taken place in the last three years in your Medicaid enrollment data system *(be sure to identify specific dates on which changes were implemented)*:

   ☐ New enrollment system purchased and installed to replace old system.

   ☐ New enrollment system purchased and installed to replace most of old system - old system still used.

   ☐ Major enhancements to old system (what kinds of enhancements?).

   ☐ New product line members stored on old system.

   _____

   _____

   _____

   _____

2. In your opinion, have any of these changes influenced, even temporarily, the quality and/or completeness of the Medicaid data that are collected? If so, how and when?

   _____

   _____

   _____

   _____

3. How does your plan uniquely identify enrollees?

   _____

   _____

   _____

   _____

4. How do you handle enrollee disenrollment and re-enrollment in the Medicaid product line? Does the member retain the same ID?

5. Can your systems track enrollees who switch from one product line (e.g., Medicaid, commercial plan, Medicare) to another?

   Circle your response. Yes No

5a. Can you track an enrollee's initial enrollment date with your MCO/PHP or is a new enrollment date assigned when a member enrolls in a new product line?

5b. Can you track previous claim/encounter data or are you unable to link previous claim/encounter data across product lines?

6. Under what circumstances, if any, can a Medicaid member exist under more than one identification number within your MCO/PHP's information management systems? Under what circumstances, if any, can a member's identification number change?

7. How does your MCO/PHP enroll and track newborns born to an existing Medicaid enrollee ?

_____

_____

_____

8. If your MCO/PHP has a Medicare product line, describe how your enrollment systems link individuals simultaneously enrolled in both your Medicare product line and the Medicaid plan product line.

_____

_____

_____

_____

8a. Is claim/encounter data linked for Medicare/Medicaid dual eligibles so that all encounter data can be identified for the purposes of performance measure reporting?

Circle your response. Yes No

8b. Is claim/encounter data linked for individuals enrolled in both a Medicare and Medicaid plan so that all encounter data can be identified for the purposes of performance measure reporting?

Circle your response. Yes No

9. How often is Medicaid enrollment information updated?

_____

_____

_____

_____

10. How is Medicaid continuous enrollment being defined? In particular, does your system have any limitations that preclude you from fully implementing continuous enrollment requirements exactly as specified in the State performance measure requirements?

11. Please attach a copy of the source code that you use to calculate Medicaid continuous enrollment.

12. How do you handle breaks in Medicaid enrollment--e.g., situations where a Medicaid enrollee is disenrolled one day and reenrolled the next simply for administrative reasons? Does this affect your continuous enrollment calculations?

13. Do you have restrictions on when Medicaid enrollees can enroll or disenroll? Please describe.

14. How do you identify and count Medicaid member months? Medicaid member years?

15. Please identify all data from which claims/encounters for the Medicaid product line are verified.

16. Does the plan offer vision or pharmacy benefits to its Medicaid members that are different from the vision or pharmacy benefits offered to its commercial enrollees (within a given contract or market area)? *Circle your response.* Yes No

If yes, explain: _____

16a. If vision benefits vary by benefit package, outline the different options available. How are enrollees tracked?

16b. If pharmacy benefits vary by benefit package, outline the different options available. How are enrollees tracked?

C. Ancillary Systems

Use this section to record information on stand-alone systems or benefits provided through subcontracts, such as pharmacy or mental health/substance abuse.

1. Does your MCO/PHP incorporate data from vendors to calculate any of the following Medicaid quality measures? If so, which measures require vendor data?

NOTE: The measures listed in the following table are examples of measures that can be calculated with administrative data. The State and EQRO should tailor this table to list those measures that the State requires its MCO/PHP contractors to produce and any other measures in which the State is interested.

MEASURE	VENDOR NAME
Childhood and Adolescent Immunization Rate(s)	
Well Child Visits	
Initiation of Prenatal Care	
Cervical Cancer Screening	
Chlamydia Screening in Women	
Low Birth weight	
Prenatal Care in First Trimester	
Breast Cancer Screening (Mammography	
Glycohemoglobin Monitoring	
Ambulatory Follow-Up After Hospitalization For Specified Mental Health Disorders	
Provider Certification	

2. Discuss any concerns you may have about the quality or completeness of any vendor data.

_____

_____

_____

_____

_____

3. Please itemize subcontracted Medicaid benefits that are adjudicated through a separate system that belongs to a vendor.

4. Describe the kinds of information sources available to the MCO/PHP from the vendor (e.g., monthly hard copy reports, full claims data).

5. Do you evaluate the quality of this information? If so, how?

6. Did you incorporate these data into the creation of Medicaid-related studies? If not, why not?

D. Integration and Control of Data for Performance Measure Reporting

This section requests information on how your MCO/PHP integrates Medicaid claims, encounter, membership, provider, vendor, and other data to calculate performance rates. All questions relate to your current systems and processes, unless indicated otherwise.

File Consolidation

1. Please attach a flowchart outlining the structure of your management information systems, indicating data integration (i.e., claims files, encounter files, etc.). For an example of the minimum level of detail requested, please refer to the example on page 40. Label the attachment II.D.1.

2. In consolidating data for Medicaid performance measurement, how are the data sets for each measure collected:

   - By querying the processing system online?

   - By using extract files created for analytical purposes? If so, how frequently are the files updated? How do they account for claim and encounter submission and processing lags? How is the file creation process checked for accuracy?

   - By using a separate relational database or data warehouse (i.e., a performance measure repository)? If so, is this the same system from which all other reporting is produced?

_____

_____

_____

_____

_____

_____

3. Describe the procedure for consolidating Medicaid claims/encounter, member, and provider data for performance measure reporting (whether it be into a relational database or file extracts on a measure by measure basis).

   3a. How many different sources of data are merged together to create reports?

   _____

   _____

3b. What control processes are in place to ensure data merges are accurate and complete?

3c. What control processes are in place to ensure that no extraneous data are captured (e.g., lack of specificity in patient identifiers may lead to inclusion of non-eligible members or to double-counting)?

3d. Do you compare samples of data in the repository to transaction files to verify if all the required data are captured (e.g., were any members, providers, or services lost in the process)?

3e. Describe your process(es) to monitor that the required level of coding detail is maintained (e.g., all significant digits, primary and secondary diagnoses remain)?

4. Describe both the files accessed to create Medicaid performance measures and the fields from those files used for linking or analysis. *Use either a schematic or text to respond.*

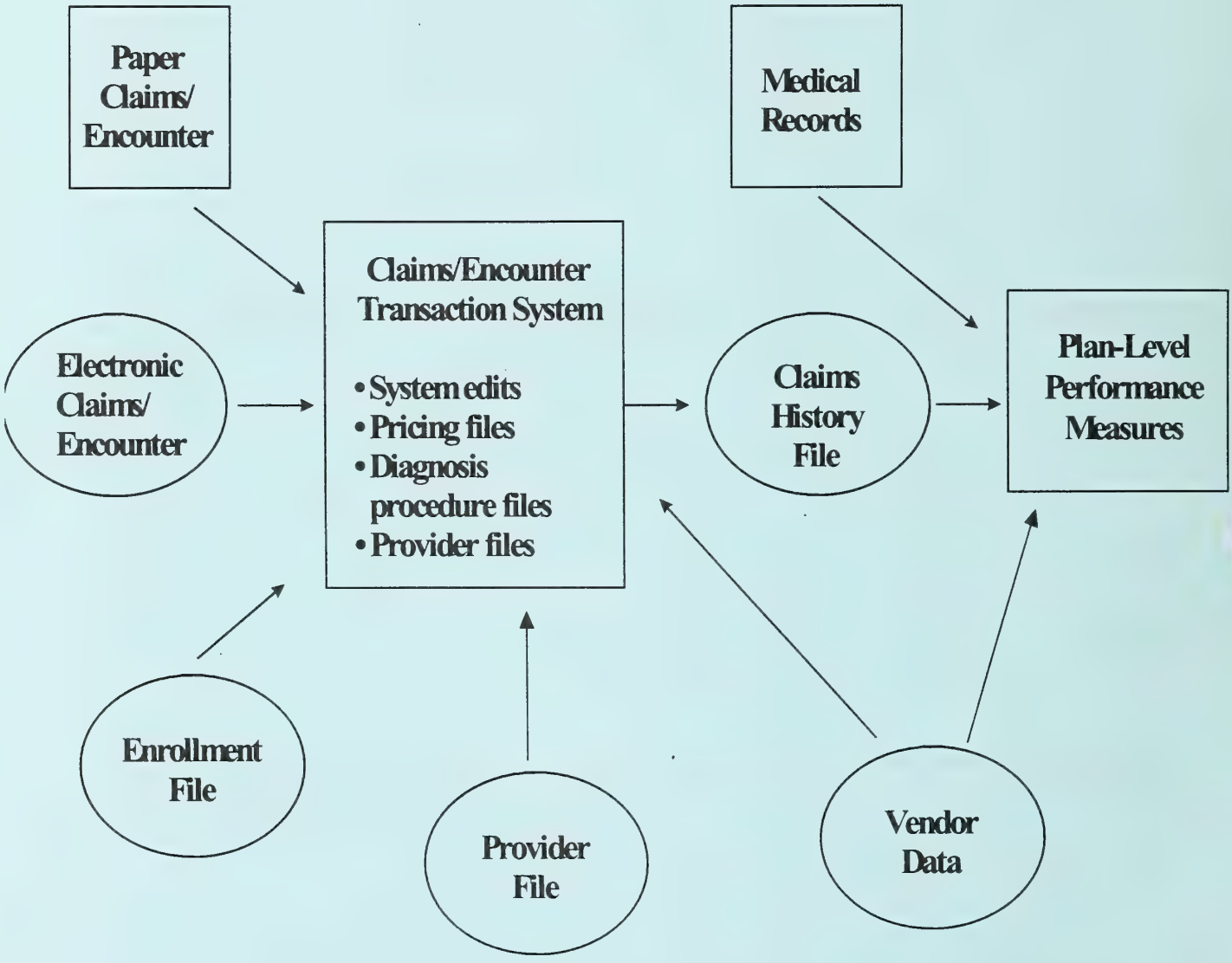
5. Are any algorithms used to check the reasonableness of data integrated to report Medicaid performance measures?

6. Are Medicaid reports created from a vendor software product? If so, how frequently are the files updated? How are reports checked for accuracy?

7. Are data files used to report Medicaid performance measures archived and labeled with the performance period in question?

EXAMPLE

Performance Measure Data: Flowchart of Information System Structure



Vendor Data Integration

8. Information on several types of external encounter sources is requested. In the table on the following page, for each type of delegated service, please indicate the following:

   - Second column: Indicate the number of vendors contracted (or subcontracted) to provide the Medicaid service. Include vendors that offer all or some of the service.

   - Third column: Indicate whether your MCO/PHP receives member-level data for any Medicaid performance measure reporting from the vendor(s). Only answer "Yes" if all data received from contracted vendor(s) are at the member level. If *any* encounter-related data is received in aggregate form, you should answer "No." If type of service is not a covered benefit, indicate "N/A".

   - Fourth column: Indicate whether all data needed for Medicaid performance measure reporting are integrated, at the member-level, with MCO/PHP administrative data.

   - Fifth and sixth columns: Rank the completeness and quality of the Medicaid data provided by the vendor(s).
     Consider data received from all sources when using the following data quality grades:
     A = Data are complete or of high quality.
     B = Data are generally complete or of good quality.
     C = Data are incomplete or of poor quality.

   - In the seventh column, describe any concerns you have in ensuring completeness and quality of Medicaid data received from contracted vendors. If measure is not being calculated because of no eligible members, please indicate "N/A."

Medicaid Claim/Encounter Data from Vendors

Type of Delegated Service	Number of Contracted Vendors	Always receive member-level data from all vendor(s)? (Yes or No)	Integrate vendor data with MCO/PHP admin-istrative data? (Yes or No)	Completeness of Data (A, B, or C)	Quality of Data (A, B, or C)	Rationale for Rating/ Concerns with Data Collection
Behavioral Health						
Family Planning						
Home Health Care						
Hospital						
Laboratory						
Pharmacy						
Primary Care						
Radiology						
Specialty Care						
Vision Care						

Performance Measure Repository Structure

If your MCO/PHP uses a performance measure repository, please answer the following question. Otherwise, skip to the Report Production section.

9. If your MCO/PHP uses a performance measure repository for Medicaid performance measures, review the repository structure. Does it contain all the key information necessary for Medicaid performance measure reporting?

Report Production

10. Please describe your Medicaid report production logs and run controls. Please describe your Medicaid performance measure report generation process.

11. How are Medicaid report generation programs documented? Is there a type of version control in place?

12. How does your MCO/PHP test the process used to create Medicaid performance measure reports?

13. Are Medicaid performance measure reporting programs reviewed by supervisory staff?

14. Do you have internal back-ups for performance measure programmers—i.e., do others know the programming language and the structure of the actual programs? Is there documentation?

15. How are revisions to Medicaid claims, encounters, membership, and provider data systems managed?

IV. PROVIDER DATA

Compensation Structure

The purpose of this section is to evaluate the Medicaid provider compensation structure, as this may influence the quality and completeness of data. Please identify the percentage of member months in your plan contributed by Medicaid members whose primary care providers and specialists are compensated through each of the following payment mechanisms.

PAYMENT MECHANISM	Primary Care Physician	Specialist Physician
1. Salaried		
2. Fee-for-Service - no withhold or bonus		
3. Fee-for-Service, with withhold Please specify % withhold:		
4. Fee-for-Service with bonus Bonus range:		
5. Capitated - no withhold or bonus		
6. Capitated with withhold Please specify % withhold:		
7. Capitated with bonus Bonus range:		
8. Other		
TOTAL	100%	100%

9. Please describe how Medicaid provider directories are updated, how frequently, and who has "change" authority.

9a. Does your MCO/PHP maintain provider profiles in its IS?

Please circle response: YES NO

9b. If yes to "a," what provider information is maintained in the provider profile database; e.g. languages spoken, special accessibility for individuals with special health care needs. Other? *Please describe:*

_____

_____

_____

10. How are Medicaid fee schedules and provider compensation rules maintained? Who has updating authority?

_____

_____

_____

_____

11. Are Medicaid fee schedules and contractual payment terms automated? Is payment against the schedules automated for all types of participating providers?

_____

_____

_____

_____

Requested Documentation

The documentation requested in the previous questions is summarized in the table below. Please label all attached documentation as described in the table, and when applicable by the item number from the ISCA (e.g., III.B.10). Remember, you are not limited to providing only the documentation listed below; you are encouraged to provide any additional documentation that helps clarify an answer or eliminates the need for a lengthy response.

Requested Document	Details
Previous Medicaid Performance Measure Audit Reports	Please attach final reports from any previous Medicaid performance measure audits in which your MCO/PHP participated during the past two years.
Organizational Chart	Please attach an organizational chart for your MCO/PHP. The chart should make clear the relationship among key individuals/departments responsible for information management, including performance measure reporting.
Data Integration Flow Chart	Please provide a flowchart that gives an overview of the structure of your management information systems. See the example provided in Section II-D. "Integration and Control of Data for Performance Measure Reporting." Be sure to show how all claims, encounter, membership, provider, and vendor data are integrated for performance measure reporting.
Performance Measure Repository File Structure (if applicable)	Provide a complete file structure, file format, and field definitions for the performance measure repository.
Program/Query Language for Performance Measure Repository Reporting (if applicable)	Provide full documentation on the software programs or codes used to convert performance measure repository data to performance measures.
Continuous Enrollment Source Code	Attach a copy of the source code/computer programs that you use to calculate continuous enrollment for Medicaid enrollees.
Medicaid Member Months Source Code	Attach a copy of the source code/computer programs that you use to calculate member months, member years for Medicaid enrollees.
Medicaid Claims Edits	List of specific edits performed on claims as they are adjudicated with notation of performance timing (pre- or post-payment) and whether they are manual or automated functions.
Statistics on Medicaid claims/encounters and other administrative data	Documentation that explains statistics reported in the ISCA.

Reviewer Worksheet and Interview Guide

This annotated version of the *Information System Capabilities Assessment for Managed Care Organizations / Prepaid Health Plans (ISCA)* is provided for EQRO personnel to: 1) record their findings from the review of ISCA forms completed by the each MCO / PHP; 2) note issues to be addressed in follow-up interviews with MCO /PHP personnel and 3) to record their findings from those interviews. EQRO staff may need to revise this form to provide additional space under each question to record issues and findings.

I. GENERAL INFORMATION

Interviewee(s) names and titles:_____

Interviewer(s) names and tiles:_____

Date of interview:_____

Please provide the following general information:

Note: The information requested below pertains to the collection and processing of data for an MCO/PHP's Medicaid line of business. In many situations, if not most, this may be no different than how an MCO/PHP collects and processes commercial or Medicare data. However, for questions which may address areas where Medicaid data is managed differently than commercial or other data, please provide the answers to the questions as they relate to Medicaid enrollees and Medicaid data.

A. Contact Information

Please insert (or verify the accuracy of) the MCO/PHP identification information below, including the MCO/PHP name, MCO/PHP contact name and title, mailing address, telephone and fax numbers, and E-mail address, if applicable.

MCO/PHP Name:	
Contact Name and Title:	
Mailing address:	
Phone number:	
Fax number	
E-mail address:	

B. Managed Care Model Type (Please circle one, or specify "other".)

MCO-staff model MCO-group model MCO-IPA MCO-mixed model PHP

Other - specify:_____

C. Year Incorporated _____

D. Member Enrollment for the Last Three Years.

INSURER	Year 1:_____	Year 2:_____	Year 3:_____
Privately Insured			
Medicare			
Medicaid			
Other			

E. Has your organization ever undergone a formal information systems capability assessment?

Circle a response: Yes No

If yes, who performed the assessment? _____

When was the assessment completed? _____

NOTE: If your MCO/PHP's information system has been formally assessed in the recent past (2 years or less), please attach a copy of the assessment report. Complete only those sections of the ISCA that are not covered by or have changed since the formal assessment was conducted.

II. INFORMATION SYSTEMS: DATA PROCESSING PROCEDURES & PERSONNEL

Interviewee(s) names and titles:_____

Interviewer(s) names and tiles:_____

Date of interview:_____

The State and the MCO/PHP should be certain that data being reported are not only accurate today; but also have a reasonable chance of being accurate for future reporting periods. Future accuracy can be predicted by assessing the MCO/PHP's systems development cycle and supporting environment. Plans that lack development checkpoints and controls are much more likely to introduce errors as systems change. The following criteria can be used to subjectively assess the likelihood of future reporting anomalies. States should be informed that very few programming shops in the world really meet all the desirable criteria. The EQRO will consider the status of checkpoints and controls in its overall assessment of findings.

1. What data base management system(s) (DBMS(s) does your organization use to store Medicaid claims and encounter data?

_____

_____

_____

_____

2. How would you characterize this/these DBMSs? *Circle all that apply.*

A. Relational	E. Network
B. Hierarchial	F. Flat File
C. Indexed	G. Proprietary
D. Other	H. Don't Know

[Knowing the DBMS provides an indication of the organization's overall level of sophistication. Typical responses would include Oracle, DB2, VTAM, Paradox, dBase, R:Base, Sybase, Informix, SAS, Rdb, etc.]

3. Into what DBMS(s), if any, do you extract relevant Medicaid encounter/claim/enrollment detail for analytic reporting purposes?

_____

4. How would you characterize this/these DBMS(s)? *Circle all that apply:*

A. Relational	E. Network
B. Hierarchical	F. Flat File
C. Indexed	G. PROPRIETARY
D. Other	H. Don't Know

[Answers to these questions will provide an indicator of how the process works. Note that it is possible that reports are generated directly from the incidence database without any intermediate extraction.]

5. What programming language(s) do your programmers use to create Medicaid data extracts or analytic reports? How many programmers are trained and capable of modifying these programs?

[For example, many more Cobol programmers are available on the market than for Smalltalk.]

6. Do you calculate defect rates for programs?

Circle your response. Yes No

If yes, what methods do you use?

7. Do you rely on any quantitative measures of programmer performance? If so, what method(s) do you use?

[Methods to calculate defect rates and productivity measures are indicators of the IS organization's level of sophistication. Very few firms calculate either of these very well today, if at all. Typical methods would include Lines of Code (LoC), Pages of code, ration of severe bugs to all bugs found, or Function Points (FP).]

8. Approximately what percentage of your organization's programming work is outsourced?

_____%

9. What is the average experience, in years, of programmers in your organization?

10. Approximately how much resources (time, money) is spent on training per programmer per year? What type of standard training for programmers is provided? What type of additional training is provided?

11. What is the programmer turnover rate for each of the last 3 years (new programmers per year/total programmers)?

    Year 1 (200x) : _____ % Year 2 (200x): _____ % Year 3 (200x): _____ %

[These questions attempt to determine the stability and expertise of the IS department. Answers to these questions can provide additional insight into the development cycle responses. Outsourcing means using non-employees to get the work done, sometimes off-site, in which case project specification, management, coordination and acceptance become key success factors. Ask for a guess if the turnover rate is unknown. However, not knowing the rate is an indicator of higher-than-usual turnover.]

12. Outline the steps of the maintenance cycle for your State's mandated Medicaid reporting requirement(s). Include any tasks related to documentation, debugging, roll out, training, etc. The level of detail should result in 10-25 steps in the outline.

13. What is the process for version control when code is revised?

[The IS department should follow a standardized process when updating and revising code. This process should include safeguards which ensure that the correct version of a program is in use.]

14. How does your organization know if changes to the claims/encounter/enrollment tracking system impact required reporting to the State Medicaid program? What motivates you to update the program?

[A specific individual within the organization should be responsible for determining the impact of any changes made to the plan's claims/encounter/enrollment tracking systems. The plan should have in place a system for triggering IS staff to update the programs.]

15. Who is responsible for your organization meeting the State Medicaid reporting requirements (CEO, CFO, COO)?

16. Staffing

16a. Describe the data processing organization in terms of staffing and their expected productivity goals. What is the overall daily, monthly and annual productivity of overall department and by processor?

[Unusually high productivity goals can affect the accuracy and quality of a processor's work.]

16b. Describe processor training from new hire to refresher courses for seasoned processors.

[New hires should be provided with on-the-job training and supervision. Supervisors should closely audit the work of new hires before suspending the training process. Seasoned processors should be given occasional refresher courses and training concerning any system modifications.]

16c. What is the average tenure of the staff? What is annual turnover?

[A larger number of new employees or high turn-over of experienced staff could result in decreased accuracy and processing speed.]

17. Security

17a. Describe how loss of Medicaid claim and encounter and other related data is prevented when systems fail? How frequently are system back-ups performed? Where is back-up data stored?

[System back-ups should be performed daily (at a minimum) to prevent against data loss. Back-up data should be stored on separate systems or tape, diskettes or DAT, and stored in a separate location in case of fire, flood, etc.]

17b. How is Medicaid data corruption prevented due to system failure or to program error?

[A back-up procedure will protect the data from destruction due to system failure and program error. Plans can also institute additional safeguards to protect data from being written over during these processes.]

17c. Describe the controls used to assure all Medicaid claims data entered into the system is fully accounted for (e.g., batch control sheets).

[The plan should have a process in place which ensures that all claims/encounters which have been logged as received are entered into the system and processed.]

17d. Describe the provisions in place for physical security of the computer system and manual files:

- Premises
- Documents

- Computer facilities
- Terminal access and levels of security

[The system should be protected from both unauthorized usage and accidental damage. Paper based claims/encounters should be in locked storage facilities when not in use. The computer system and terminals should be protected from unauthorized access using a password system and security screens. Passwords should be changed frequently and should be re-set whenever an employee terminates.]

17e. What other individuals have access to the computer system? Customers? Providers? Describe their access and the security that is maintained restricting or controlling such access.

[Both customers and providers should have their access limited to read-only so that they cannot alter any files. They should be given access to only those files containing their own patients or members. Customers should be prevented from accessing highly confidential patient information by being given "blinded" patient names and "scrambled" ID numbers, or restricted access to particular files.]

III. DATA ACQUISITION CAPABILITIES

Interviewee(s) names and titles:_____

Interviewer(s) names and tiles:_____

Date of interview:_____

The purpose of this section is to obtain a high-level understanding of how you collect and maintain claims/encounters, enrollment information and data on ancillary services such as prescription drugs.

A. Administrative Data (Claims and Encounter Data)

This section requests information on input data sources (e.g., paper and electronic claims) and on the transaction system(s) you use.

1. Do you use standard claims or encounter forms for the following? If yes, please specify (e.g., HCFA 1500, UB 92)

DATA SOURCE	NO	YES	IF YES, PLEASE SPECIFY
Hospital			
Physician			
Drug			
Other			

(Plans that do not use either HCFA 1500 or UB 92 forms may be using forms they developed themselves. If a plan is using its own forms, these forms should be reviewed to ensure they are capturing the following key data elements: patient identification information [SSN, name, date of birth, gender], provider identifying information [Tax ID, name], date of service, place of service and diagnoses and procedure codes. An evaluation of their forms to ascertain adequacy and completeness of data collection may be necessary.

2. We would like to understand the means by which claims or encounters are submitted to your plan. We are also interested in an estimate of what percentage (if any) of services provided to your enrollees by all providers serving your Medicaid enrollees are NOT submitted as claims or encounters and therefore are not represented in your administrative data. Please fill in the following table with the appropriate percentages:

CLAIMS OR ENCOUNTER TYPES

MEDIUM	Hospital	PCP	Specialist Physician	Dental	Mental Health /Substance Abuse	Drug	Other
Claims/encounters submitted electronically							
Claims/encounters submitted on paper							
Services not submitted as claims or encounters							
TOTAL	100%	100%	100%	100%	100%	100%	100%

(Since paper forms need to be entered into a plan's system, processing paper forms is prone to error. If a plan is receiving more that 50 percent of its data on paper forms, verify the data checks the plan uses to test processor accuracy. Electronic data submission should also undergo data edits and validity checks. Plans with a high percentage of unavailable data for a particular category will have difficulty reporting measures that use that category. For example, a plan receiving no drug data from its vendor would not be able to report the HEDIS measures for Outpatient Drug Utilization.)

3. Please document whether the following data elements are required for each of the types of Medicaid claims/encounters identified below. If required, enter an "R" in the appropriate box.

CLAIMS/ENCOUNTER TYPES

DATA ELEMENTS	Hospital	Primary Care Physician	Specialist Physician	Dental	Mental Health / Substance Abuse	Drug	other
Patient Gender							
Patient DOB/Age							
Diagnosis							
Procedure							
First Date of Service							
Last Date of Service							
Revenue Code							
Provider Specialty							

(Standard measures of plan performance such as Medicaid HEDIS are dependent upon the availability of the fields listed above. If procedure codes or diagnosis codes are not available, the data will not include the necessary level of detail to report performance measures.)

4. How many diagnoses and procedures are captured on each claim? On each encounter?

	Claim		Encounter	
	Diagnoses	Procedures	Diagnoses	Procedures
Institutional Data				
Professional Data				

(A minimum of two diagnosis codes and two procedure codes should be available. If only one diagnosis is available, it may be difficult to identify patients with chronic conditions such as diabetes or asthma.)

5a. Can you distinguish between principal and secondary diagnoses?

Circle your response. Yes No

(Some plans will consider the first diagnosis on the claim to be principal. Other plans determine the principal diagnosis by selecting the most expensive condition represented.

5b. If yes, to 5.a above how do you distinguish between principal and secondary diagnoses?

_____

_____

_____

6. Please explain what happens if a Medicaid claim/encounter is submitted and one or more required fields are missing, incomplete or invalid. For example, if diagnosis is not coded, is the claims examiner required by the system to use an on-line software product like AutoCoder to determine the correct ICD-9 code?

(The use of an automated coding product such as GMIS' AutoCoder can result in more consistent coding of missing information. Plans that do not use such a product may allow processors to make their own decisions on appropriate coding. Processor judgement could result in less accurate coding.)

Institutional Data: _____

_____

_____

_____

Professional Data: _____

_____

_____

_____

7. What steps do you take to verify the accuracy of submitted information (e.g., procedure code-diagnosis edits, gender-diagnosis edits, gender-procedure code edits)?

(For example, plans will often verify that the information in procedure code and diagnosis code fields are valid codes. Plans may also verify that diagnosis and procedure codes are appropriate for age and gender. For example, a claim with a procedure of hysterectomy should be for a female patient.)

Institutional Data: _____

_____

_____

_____

Professional Data: _____

_____

_____

_____

8. Under what circumstances can claims processors change Medicaid claims/encounter information?

(If processors are given the ability to modify claims/encounter information, the accuracy of that information could be affected either negatively or positively. Processors may simply correct data that was submitted incorrectly, which would increase the quality of the data. However, processors may also change diagnosis and procedure codes which could result in a loss of coding specificity. Does the plan check processed data against paper claims?)

_____

_____

_____

_____

9. Identify any instance where the content of a field is intentionally different from the description or intended use of the field. For example, if the dependent's SSN is unknown, do you enter the member's SSN instead?

(Changing the content of a field can create data processing issues. For example, if the enrollee's SSN is used as an ID for a number of dependents, the claim may be given the age and sex of the member rather than the actual patient. The use of the enrollee's SSN would make it difficult to track the dependent's experience over time.)

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10a. How are Medicaid claims/encounters received?

SOURCE	Received directly from provider	Submitted through an Intermediary
Hospital		
Physician		
Pharmacy		
Other		

10b. If the data are received through an intermediary, what changes, if any, are made to the data?

(Intermediaries that are processing the data, such as a pharmacy benefit firm, could modify the data, creating a data set that is inconsistent with the plan's data. The intermediary may define field content differently or may not be using the same fields as the plan, making it difficult to integrate the intermediary's data into the plan's systems. All data submitted through an intermediary should be monitored for quality by the plan.)

11. Please estimate the percentage of Medicaid claims/encounters that are coded using the following coding schemes:

CODING SCHEME	Inpatient Diagnosis	Inpatient Procedure	Ambulatory/ Outpatient Diagnosis	Ambulatory/ Outpatient Procedure	Drug
ICD-9-CM					
CPT-4					
HCPCS					
DSM-IV					
National Drug Code					
Internally Developed					
Other (specify)					
Not required					
TOTAL	100%	100%	100%	100%	100%

(If a plan is using internally-developed coding schemes, the State should verify whether this coding can be mapped to standard coding such as ICD-9 or CPT-4. If the coding can be translated for reporting purposes [Medicaid HEDIS requires diagnosis and procedure codes], the plan should provide information on the level of specificity with which the coding maps to standard coding [e.g., three-digit specificity or five-digit specificity]. If the mapping has a low level of specificity, information on co-morbidities and complications may not be retained during translation.)

12. Please identify all systems through which service and utilization data for the Medicaid population are processed.

(Each upgrade or consolidation of the plan's information system has the potential to damage the quality of the data. For example, data could be lost or corrupted during a system conversion, or a new system could limit a plan's access to historical data. Changes in data quality and access will affect the plan's ability to report performance measures and utilization.)

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13. Please describe any major systems changes/updates that have taken place in the last three years in your Medicaid claims or encounter system *(be sure to provide specific dates on which changes were implemented).*

    - New system purchased and installed to replace old system.
    - New system purchased and installed to replace most of old system: old system still used.
    - Major enhancements to old system (what kinds of enhancements?).
    - New product line adjudicated on old system.
    - Conversion of a product line from one system to another.

[When a plan undertakes any major system changes such as conversion to a new system, the system changes could affect data quality. Data quality problems include corruption of data, loss of data, and loss of the level of detail within the data. The implementation of a new system can also affect the accessibility of historical data.]

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14. In your opinion, have any of these changes influenced, even temporarily, the quality and/or completeness of the Medicaid data that are collected,? If so, how and when?

[System conversions could affect the quality or completeness of encounter data the plan submits to the State, or the accuracy of performance measures. A temporary decrease in data quality could be a sign of a more serious undiscovered problem.]

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15. How many years of Medicaid data are retained on-line? How is historical Medicaid data accessed when needed?

[Due to system constraints, a plan may remove historical data and place it in off-line storage. The MCO/PHP's ability to report on experience spanning several years of data could be affected by the accessibility of the data stored off-line.]

16. How much Medicaid data is processed on-line vs. batch? If batch, how often are they run?

[Data which are processed on-line will be incorporated into the system on a real-time basis. If batch processing is not conducted frequently, it can result in data processing lags which affect data completeness.]

17. How complete are the Medicaid data three months after the close of the reporting period? How is completeness estimated? How is completeness defined?

[The completeness of data three months after the close of the reporting period can vary greatly by plan. A plan's contracting arrangements with providers can affect data completeness. Plans that delegate provider payment or data collection to medical groups or IPAs are less likely to have complete data three months after the reporting period ends.]

18. What is your policy regarding Medicaid claim/encounter audits? Are Medicaid encounters audited regularly? Randomly? What are the standards regarding timeliness of processing?

[Plans should be performing random periodic audits of their encounter data to determine the quality of data processing. Plans that do not perform audits at least annually are not closely monitoring the quality of data processing. Plan standards regarding timeliness of processing will influence the lag time for encounter data processing.]

19. Please provide detail on system edits that are targeted to field content, consistency. Are diagnostic and procedure codes edited for validity?

[MCOs/PHPs should have an established, standard set of edits that verify field content and consistency. For example, a field content data edit would verify that a valid date is entered into the date of service field. Key fields which should be edited include patient identifying information (SSN, name, date of birth, sex), provider identifying information (name, tax ID, type), date and place of service, and diagnosis and procedure codes. The quality of diagnosis and procedure coding will affect the validity of reports and performance measures submitted by the MCO/PHP.]

20. Please complete the following table for Medicaid claim and encounter data and other Medicaid administrative data. Provide any documentation that should be reviewed to explain the data that is being submitted.

	Claims	Encounters	Other Administrative Data
Percent of total service volume			
Percent complete			
How are the above statistics quantified?			
Incentives for data submission			

[MCOs/PHPs with claims data comprising more than 50 percent of their total service volume are likely to have a more complete representation of total MCO/PHP experience than MCOs/PHPs that rely heavily on encounter data. While providers have an incentive to submit claims in order to receive payment for services, they do not always have incentives to submit encounter information. If an MCO/PHP does not offer providers an incentive, or does not require the submission of encounter data, the MCO/PHP may not receive data for every encounter. Other administrative data collected by an MCO/PHP could include data from pharmacy or laboratory vendors.]

21. Describe the Medicaid claims/encounter suspend ("pend") process including timeliness of reconciling pended services.

[Pended claims/encounters are those claims/encounters that have been suspended during processing because they failed data quality edits or violated provider payment parameters. Information on these claims and encounters will not be available for reporting until they have been reconciled and processed into the system. What percentage of claims are suspended or pended?]

22. Describe how Medicaid claims are suspended/pended for medical review, for non approval due to missing authorization code(s) or for other reasons. What triggers a processor to follow up on "pended" claims? How frequent are these triggers?

[Review and processing should not be handled by the same employee. A system should be in place which encourages the processor to follow-up on the status of claims in review that have not yet been approved to ensure they are resolved.]

23. If any Medicaid services/providers are capitated, have you performed studies on the completeness of the information collected on capitated services? If yes, what were the results?

[Since provider payment for capitated services is not determined by the encounter data submitted, providers do not have an incentive to submit complete and accurate information on every service provided. Data on capitated services often does not include the same level of detail as fee-for-service claims information. Plans should be aware that capitated data is less complete and should audit the data at least annually to monitor its quality.]

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24a. Identify the claim/encounter system(s) for each product line offered to Medicaid enrollees:

Systems Used to Process	**Product Line:** _____	**Product Line:** _____	**Product Line:** _____
Fee-for-service (indemnity) claims			
Capitated service encounters			
Clinic patient registrations			
Pharmacy claims			
Other (describe)			

24b. If multiple systems are used to process claims for the Medicaid product line, document how claims/encounters are ultimately merged into Medicaid-specific files--and on which platform? Note which merges or data transfers or downloads are automated and which rely on manual processes.

[When data are merged across multiple systems, records or data elements can be altered or lost during the conversion and integration processes. Multiple conversions, integrations, and the use of manual processes will increase the probability of an error occurring.]

Are these merges and/or transfers performed in batch? With what frequency?

[Batch processes that are not timely can result in data processing lags which affect the completeness of data after the close of the reporting period.]

24c. Beginning with receipt of a Medicaid claim in-house, describe the claim handling, logging and processes that precede adjudication. When are Medicaid claims assigned a document control number and logged or scanned into the system? When are Medicaid claims microfilmed? If there is a delay in microfilming, how do processors access a claim that is logged into the system, but is not yet filmed?

24d. Please provide a detailed description of each system or process that is involved in adjudicating:

[Professional encounters arriving separately from an office visit may not be processed as quickly as the actual office visits. If these encounters are treated as "non-standard" events, the plan may not be able to easily link these encounters with the related office visit. For example, newborns exceeding a mother's stay may have their hospital stay split into two parts. The part of the stay which coincides with the mother's hospitalization may be processed on the mother's claim and the remainder of the stay could be processed separately. Processing the newborn's stay as two separate claims could affect the plan's ability to report accurately on newborn hospital utilization.]

- A professional encounter(s) for a capitated service (e.g., child immunizations that arrive separately from the office visit.)

- A hospital claim for a delivery or for a newborn who exceeds its mother's stay.

24e. Discuss which decisions in processing a Medicaid claim/encounter are automated, which are prompted by automated messages appearing on the screen, and which are manual. Document the opportunities a processor has for overriding the system manually. Is there a report documenting overrides or "exceptions" generated on each processor and reviewed by the claim supervisor? Please describe this report.

[If processors have the ability to override the system manually they may be able to force claims/encounters with missing information through the system. For example, a processor may be able to fill in missing diagnosis or procedures codes. Processors could also use override codes such as "99999" or "00000" to fill in for missing codes. If the system does not "kick-out" these override codes during processing, the services will be retained in the system without diagnosis or procedure detail. Processors may also be able to substitute "000000000" for a missing SSN, which can lead to services for unidentified members existing on the system.]

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24f. Are there any outside parties or contractors used to complete adjudication, including but not limited to:

☐ Bill auditors (hospital claims, claims over a certain dollar amount)

☐ Peer or medical reviewers

☐ Sources for additional charge data ("usual & customary")

☐ Bill "repricing" for carved out benefits (mental health, substance abuse)

How is this data incorporated into your organization's data?

[If outside parties are used, the plan should be incorporating data generated by those parties into the system. The data should first be run through the plan's data quality checks to verify its accuracy and completeness.]

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24g. Describe the system's editing capabilities that assure that Medicaid claims are adjudicated correctly. Provide a list of the specific edits that are performed on claims as they are adjudicated, and note: 1) whether the edits are performed pre- or post-payment; and 2) which are manual and which are automated functions.

[When reviewing plan adjudication edits, the State should concentrate on edits which affect the data fields that are used to generate plan performance measures and reports. Are outliers for length of stay and charges edited? Utilizing an automated editing process provides more consistent results that do not require processor judgment. Edits that are performed pre-payment can prevent invalid data from being incorporated into the system.]

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24h. Discuss the routine and non-routine (ad hoc or special) audits that are performed on claims/encounters to assure the quality and accuracy and timeliness of processing. Note which audits are performed per processor, which rely on targeted samples and which use random sampling techniques. What is the total percentage of claims on-hand that are audited through these QA processes? How frequently?

[Note: This item is not relevant in instances where the EQRO is performing encounter data validation. When reviewing edits that are used to determine processor accuracy, consider that these edits will not provide information on the quality of the initial provider data submission. The audit plan should include random sampling techniques to provide an overall picture of quality. Plans will often concentrate on auditing complicated or aberrant claims/encounters rather than using a random sample. The plan should have instituted a process for sharing audit results with the processor to facilitate quality improvement.]

_____

24i. Please describe how Medicaid eligibility files are updated, how frequently and who has "change" authority. How and when does Medicaid eligibility verification take place?

[The plan should add new enrollees to the system within a reasonable amount of time after they have enrolled. Enrollees should not be experiencing delays in access to care due to plan enrollment processes. The plan may be using a different enrollment process for Medicaid enrollees than for enrollees with commercial coverage.]

24j. How are encounters for capitated services handled by payment functions? What message appears to notify processors that they are handling a capitated service?

[If no message appears to notify processors that they are handling a capitated service, these services could be processed incorrectly. Payment functions can be suspended or modified to handle capitated services. The plan should explain how capitated services are processed and how processing affects data quality.]

24k. Describe how your systems and procedures handle validation and payment of Medicaid claims when procedure codes are not provided.

[Plans requiring valid procedure coding for all claims/encounters will have more detailed data available for reporting and analysis. However, these plans may allow processors to supply missing codes using a code book or override the system using an un-specified code. A number of plans use programs such as the GMIS AutoCoder product to fill in missing codes. When a plan supplies missing codes, the coding can be less accurate than codes supplied directly by the provider of service.]

24l. Where does the system-generated output (EOBs, letters, etc.) reside? In-house? In a separate facility? If located elsewhere, how is such work tracked and accounted for?

[Plans that have delegated the production of EOBs, letters and other output should monitor the accuracy and timeliness of those activities.]

25a. Describe all performance monitoring standards for Medicaid claims/encounters processing and recent actual performance results.

25b. Describe processor-specific performance goals and supervision of actual vs. target performance. Do processors have to meet goals for processing speed? Do they have to meet goals for accuracy?

25c. How is performance against targets figured into the official performance appraisal process? Into processor and supervisor compensation?

B. Enrollment System

1. Please describe any major changes/updates that have taken place in the last three years in your Medicaid enrollment data system *(be sure to identify specific dates on which changes were implemented)*:

   ☐ New enrollment system purchased and installed to replace old system.

   ☐ New enrollment system purchased and installed to replace most of old system - old system still used.

   ☐ Major enhancements to old system (what kinds of enhancements?).

   ☐ New product line members stored on old system.

[Changes to a plan's enrollment system requiring data conversion and data integration can create data quality problems. Implementing a new enrollment system could lead to a loss of access to data on the old system, or the assignment of new member numbers for all enrollees. Data conversion and integration can also limit a plan's ability to track an enrollee's enrollment history. When a new product line is added to an existing system, a plan may need to make the new data fit the older process, therefore modifying the system to "handle" new information. Implementing such modifications can be difficult for a plan that has been using the same system for a number of years. The level of enrollment detail retained can be affected by such modifications.]

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2. In your opinion, have any of these changes influenced, even temporarily, the quality and/or completeness of the Medicaid data that are collected? If so, how and when?

[Consider whether changes in data quality will affect the validity of the data submitted to the State]

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3. How does your plan uniquely identify enrollees?

(Major changes to a MCO/PHP's enrollment system could involve the conversion of membership data to a new system. When MCO/PHPs convert members, they may change the enrollee's ID number, making it difficult to track the enrollee's enrollment pattern across time. Changes to the enrollment system could also lead to a loss of data for specific patients.)

4. How do you handle enrollee disenrollment and re-enrollment in the Medicaid product line? Does the member retain the same ID?

(Enrollees should have a single ID number to facilitate tracking their experience. However, some plans change an enrollee's ID number when the enrollee re-enrolls. Experience for enrollees who have switched ID numbers will be more difficult to track. Dependents using an enrollee's ID are also difficult to identify for reporting purposes. For example, children without a unique ID could affect the ability of the plan to report on low birth-weight babies, childhood immunizations, and asthma inpatient admissions. This is an important point. EQROs should give higher "grades" to plans which have good methods of identifying enrollees.)

5. Can your systems track enrollees who switch from one product line (e.g., Medicaid, commercial plan, Medicare) to another?

Circle your response. Yes No

5a. Can you track an enrollee's initial enrollment date with your MCO/PHP or is a new enrollment date assigned when an enrollee enrolls in a new product line?

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_____

5b. Can you track previous claim/encounter data or are you unable to link previous claim/encounter data across product lines?

_____

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6. Under what circumstances, if any, can a Medicaid member exist under more than one identification number within your MCO/PHP's information management systems? Under what circumstances, if any, can a member's identification number change?

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7. How does your MCO/PHP enroll and track newborns born to an existing MCO/PHP enrollee?

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8. If your MCO/PHP has a Medicare product line, describe how your enrollment systems link individuals simultaneously enrolled in both your Medicare product and the Medicaid product line.

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8a. Is claim/encounter data linked for Medicare/Medicaid dual eligibles so that all encounter data can be identified for the purposes of performance measure reporting?

Circle your response. Yes No

8b. Is claim/encounter data linked for individuals enrolled in both a Medicare and Medicaid plan so that all encounter data can be identified for the purposes of performance measure reporting?

Circle your response. Yes No

9. How often is Medicaid enrollment information updated?

[Enrollment information should be updated real-time, daily, or weekly.]

10. How is Medicaid continuous enrollment being defined? In particular, does your system have any limitations that preclude you from fully implementing continuous enrollment requirements exactly as specified in the State performance measure requirements?

11. Please attach a copy of the source code that you use to calculate Medicaid continuous enrollment.

12. How do you handle breaks in Medicaid enrollment--e.g., situations where a Medicaid enrollee is disenrolled one day and reenrolled the next simply for administrative reasons? Does this affect your continuous enrollment calculations?

13. Do you have restrictions on when Medicaid enrollees can enroll or disenroll? Please describe.

14. How do you identify and count Medicaid member months? Medicaid member years?

15. Please identify all data from which claims/encounters for the Medicaid product line are verified.

[Eligibility of the patient should be verified before claims and encounters are processed. Dates of enrollment and disenrollment are key reporting fields for Medicaid HEDIS measures. Eligibility status for Medicaid beneficiaries is dynamic and should be updated frequently. Eligibility status should also be verified before data is submitted to the State].

16. Does the plan offer vision or pharmacy benefits to its Medicaid members that are different from the vision or pharmacy benefits offered to its commercial enrollees (within a given contract or market area)?

Circle your response. Yes No

16a. If vision benefits vary by benefit package, outline the different options available. How are enrollees tracked?

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16b. If pharmacy benefits vary by benefit package, outline the different options available. How are enrollees tracked?

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C. Ancillary Systems

Use this section to record information on stand-alone systems or benefits provided through subcontracts, such as pharmacy or mental health/substance abuse.

NOTE: The measures listed in the following table are examples of measures that can be calculated with administrative data. The State and EQRO should tailor this table to list those measures that the State requires its MCO/PHP contractors to produce and any other measures in which the State is interested.

1. Does your plan incorporate data from vendors to calculate any of the following Medicaid quality measures? If so, which measures require vendor data?

MEASURE	VENDOR NAME
Childhood and Adolescent Immunization Rate(s)	
Well Child Visits	
Initiation of Prenatal Care	
Cervical Cancer Screening	
Chlamydia Screening in Women	
Low Birth-Weight	
Prenatal Care in First Trimester	
Breast Cancer Screening	
Glycohemoglobin Monitoring	
Ambulatory Follow-Up After Hospitalization For Specified Mental Health Disorders	
Provider Certification	

(If a plan is using vendor data, the plan should have a formal process in place to validate that data before incorporating it into their information systems. The plan needs to check the vendor data for reliability, completeness and timeliness of submission.)

2. Discuss any concerns you may have about the quality or completeness of any vendor data.

(The plan should have staff who are experienced with the vendor's data. Furthermore, most plans will answer this question by saying "we have no concerns". Probe on this issue. The EQRO should "award points" for answers demonstrating understanding of potential problems with vendor data.)

3. Please itemize subcontracted Medicaid benefits that are adjudicated through a separate system that belongs to a vendor.

[Many plans contract-out services for pharmacy benefits management, mental health/substance abuse, laboratory and radiology services. If the data are processed on the vendor's system, it may not be forwarded to the plan in a complete form or on a timely basis. Vendors may also use a different method of processing resulting in data that will not merge with or complement plan data.]

4. Describe the kinds of information sources available to the MCO/PHP from the vendor (e.g., monthly hard copy reports, full claims data).

5. Do you evaluate the quality of this information? If so, how?

[All of the vendor information should be verified for accuracy before a plan loads it into their IS. The plan and the vendor may not define variables consistently or use the same reporting format.]

6. Did you incorporate these data into the creation of Medicaid-related studies? If not, why not?

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D. Integration and Control of Data for Performance Measure Reporting

This section requests information on how your MCO/PHP integrates Medicaid claims, encounter, membership, provider, vendor, and other data to calculate performance rates. All questions relate to your current systems and processes, unless indicated otherwise.

File Consolidation

1. Please attach a flowchart outlining the structure of your management information systems, indicating data integration (i.e., claims files, encounter files, etc.). For an example of the minimum level of detail requested, please refer to the example on page 92. Label the attachment II.D.1.

2. In consolidating data for Medicaid performance measurement, how are the data sets for each Medicaid measure collected:

   - By querying the processing system online?

   - By using extract files created for analytical purposes? If so, how frequently are the files updated? How do they account for claim and encounter submission and processing lags? How is the file creation process checked for accuracy?

   - By using a separate relational database or data warehouse (i.e., a performance measure repository)? If so, is this the same system from which all other reporting is produced?

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3. Describe the procedure for consolidating claims/encounter, member, and provider data for Medicaid performance measure reporting (whether it be into a relational database or file extracts on a measure by measure basis).

   3a. How many different sources of data are merged together to create reports?

   _____

   _____

3b. What control processes are in place to ensure data merges are accurate and complete?

3c. What control processes are in place to ensure that no extraneous data are captured (e.g., lack of specificity in patient identifiers may lead to inclusion of non-eligible members or to double-counting)?

3d. Do you compare samples of data in the repository to transaction files to verify if all the required data are captured (e.g., were any members, providers, or services lost in the process)?

3e. Describe your process(es) to monitor that the required level of coding detail is maintained (e.g., all significant digits, primary and secondary diagnoses remain)?

4. Describe both the files accessed to create Medicaid performance measures and the fields from those files used for linking or analysis. *Use either a schematic or text to respond.*

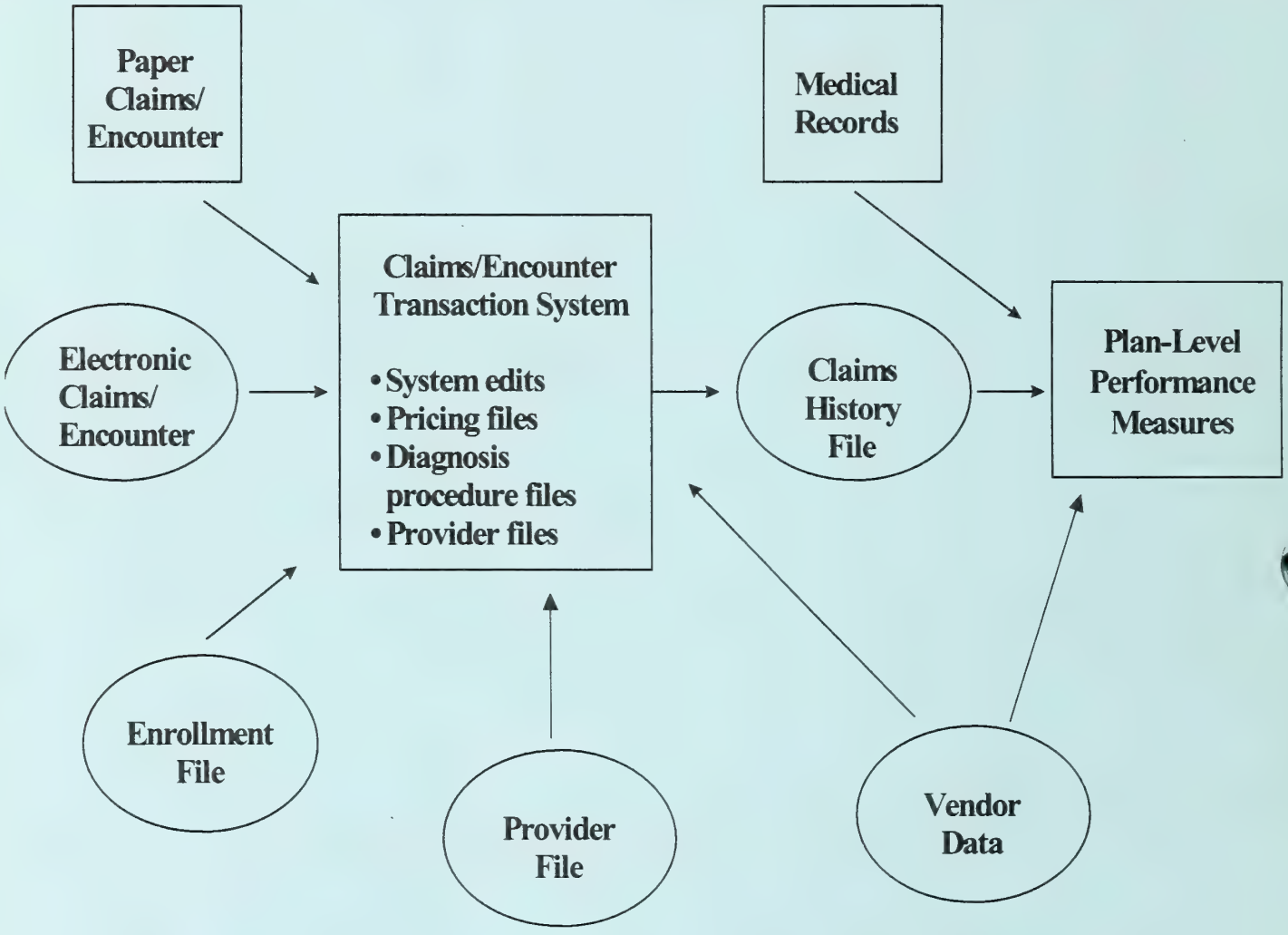
5. Are any algorithms used to check the reasonableness of data integrated to report Medicaid performance measures?

6. Are Medicaid reports created from a vendor software product? If so, how frequently are the files updated? How are reports checked for accuracy?

7. Are data files used to report Medicaid performance measures archived and labeled with the performance period in question?

EXAMPLE

Performance Measure Data: Flowchart of Information System Structure



Vendor Data Integration

8. Information on several types of external encounter sources is requested. In the table on the following page, for each type of delegated service, please indicate the following:

   - Second column: Indicate the number of vendors contracted (or subcontracted) to provide the Medicaid service. Include vendors that offer all or some of the service.

   - Third column: Indicate whether your MCO/PHP receives member-level data for any Medicaid performance measure reporting from the vendor(s). Only answer "Yes" if all data received from contracted vendor(s) are at the member level. If *any* encounter-related data is received in aggregate form, you should answer "No." If type of service is not a covered benefit, indicate "N/A".

   - Fourth column: Indicate whether all data needed for Medicaid performance measure reporting are integrated, at the member-level, with MCO/PHP administrative data.

   - Fifth and sixth columns: Rank the completeness and quality of the Medicaid data provided by the vendor(s).
     Consider data received from all sources when using the following data quality grades:
     A = Data are complete or of high quality.
     B = Data are generally complete or of good quality.
     C = Data are incomplete or of poor quality.

   - In the seventh column, describe any concerns you have in ensuring completeness and quality of Medicaid data received from contracted vendors. If measure is not being calculated because of no eligible members, please indicate "N/A."

Medicaid Claim/Encounter Data from Vendors

Type of Delegated Service	Number of Contracted Vendors	Always receive member-level data from all vendor(s)? (Yes or No)	Integrate vendor data with MCO/PHP admin-istrative data? (Yes or No)	Completeness of Data (A, B, or C)	Quality of Data (A, B, or C)	Rationale for Rating/ Concerns with Data Collection
Behavioral Health						
Family Planning						
Home Health Care						
Hospital						
Laboratory						
Pharmacy						
Primary Care						
Radiology						
Specialty Care						
Vision Care						

Performance Measure Repository Structure

If your MCO/PHP uses a performance measure repository, please answer the following question. Otherwise, skip to the Report Production section.

9. If your MCO/PHP uses a performance measure repository for Medicaid performance measures, review the repository structure. Does it contain all the key information necessary for Medicaid performance measure reporting?

Report Production

10. Please describe your Medicaid report production logs and run controls. Please describe your Medicaid performance measure report generation process.

11. How are Medicaid report generation programs documented? Is there a type of version control in place?

12. How does your MCO/PHP test the process used to create Medicaid performance measure reports?

13. Are Medicaid performance measure reporting programs reviewed by supervisory staff?

14. Do you have internal back-ups for performance measure programmers—i.e., do others know the programming language and the structure of the actual programs? Is there documentation?

15. How are revisions to Medicaid claims, encounters, membership, and provider data systems managed?

IV. PROVIDER DATA

Compensation Structure

The purpose of this section is to evaluate the Medicaid provider compensation structure, as this may influence the quality and completeness of data. Please identify the percentage of member months in your plan contributed by Medicaid members whose primary care providers and specialists are compensated through each of the following payment mechanisms.

PAYMENT MECHANISM	Primary Care Physician	Specialist Physician
1. Salaried		
2. Fee-for-Service - no withhold or bonus		
3. Fee-for-Service, with withhold - Please specify % of withhold:		
4. Fee-for-Service with bonus Bonus range:		
5. Capitated - no withhold or bonus		
6. Capitated with withhold - Please specify % of withhold:		
7. Capitated with bonus Bonus range:		
8. Other		
TOTAL	100%	100%

[Timeliness and completeness of provider data submissions often varies by contracting arrangement. Salaried providers work directly for the MCO/PHP and will submit data on a timely basis if data submission is a parameter in their contract with the MCO/PHP. Fee-for-service providers have the largest incentive to submit accurate and complete data since their payment depends upon it. Capitated providers will need incentives to submit accurate and complete data. Their compensation should be linked to data submission, which can be done through the use of bonuses and withholds. For example, lag times may differ by compensation arrangement as follows: Capitation/Salaried-no lag, Fee-for-Service - 60 day lag, Hospital - 45 day lag.]

9. Please describe how Medicaid provider directories are updated, how frequently, and who has "change" authority.

[Provider directories should be updated to reflect changes in provider status to prevent members from selecting providers no longer under contract with the plan. The plan should have adequate security procedures in place to restrict the number of individuals who can access confidential provider information and institute changes in status.]

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9a. Does your MCO/PHP maintain provider profiles in its IS?

Please circle response: YES NO

9b. If yes to "a," what provider information is maintained in the provider profile database; e.g. languages spoken, special accessibility for individuals with special health care needs. Other? *Please describe:*

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_____

10. How are Medicaid fee schedules and provider compensation rules maintained? Who has updating authority?

[Since providers consider fee schedule and compensation information to be confidential, access to this information should be restricted by the MCO/PHP. The MCO/PHP should have standardized process for updating and maintaining this information.]

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11. Are Medicaid fee schedules and contractual payment terms automated? Is payment against the schedules automated for all types of participating providers?

[Manual payment processes are more prone to error and reduce processing speed.]

Requested Documentation

The documentation requested previously is summarized in the table below. Please label all attached documentation as described in the table, and when applicable by the item number from the ISCA (e.g., III.B.10). Remember, you are not limited to providing only the documentation listed below; you are encouraged to provide any additional documentation that helps clarify an answer or eliminates the need for a lengthy response.

Requested Document	Details
Previous Medicaid Performance Measure Audit Reports	Please attach final reports from any previous Medicaid performance measure audits in which your MCO/PHP participated during the past two years.
Organizational Chart	Please attach an organizational chart for your MCO/PHP. The chart should make clear the relationship among key individuals/departments responsible for information management including performance measure reporting.
Data Integration Flow Chart	Please provide a flowchart that gives an overview of the structure of your management information systems. See the example provided in Section II-D. "Integration and Control of Data for Performance Measure Reporting." Be sure to show how all claims, encounter, membership, provider, and vendor data are integrated for performance measure reporting.
Performance Measure Repository File Structure (if applicable)	Provide a complete file structure, file format, and field definitions for the performance measure repository.

Program/Query Language for Performance Measure Repository Reporting (if applicable)	Provide full documentation on the software programs or codes used to convert performance measure repository data to performance measures.
Continuous Enrollment Source Code	Attach a copy of the source code/computer programs that you use to calculate continuous enrollment for Medicaid enrollees.
Medicaid Member Months Source Code	Attach a copy of the source code/computer programs that you use to calculate member months and member years for Medicaid enrollees.
Medicaid Claims Edits	List of specific edits performed on claims as they are adjudicated with notation of performance timing (pre- or post-payment) and whether they are manual or automated functions.
Statistics on Medicaid claims/encounters and other administrative data	Documentation that explains statistics reported in the ISCA.

Encounter Data: The Basics

The Basics

Anthony J. Asciutto

The MEDSTAT Group

ANTHONY J. ASCIUTTO, MA, MPH

BIOGRAPHICAL SKETCH

(August 2000)

Anthony J. Asciutto is a Consultant in the Chronic Care and Disabilities Unit in The MEDSTAT Group's Research and Policy Division, where he serves as an internal consultant for performance measurement and improvement initiatives and Medicaid managed care program development and implementation. Mr. Asciutto currently directs a HCFA-sponsored evaluation project, "The Evaluation of MassHealth Quality Improvement Plan," which entails the documentation and assessment of the approach to quality improvement and measurement in the Medicaid managed care programs managed by the Massachusetts Division of Medical Assistance (Medicaid). He also provides technical and programmatic consultation on a number of provider profiling initiatives for state Medicaid programs. He recently completed the "HCFA State Health Care Reform Monitoring Project," where he led the development of Encounter Data Workshops for state Medicaid Agencies and provided technical assistance in the enhancement of a national database that summarizes the operations and quality management initiatives of Medicaid programs across the country. In addition, he has assisted in the conduct of HEDIS compliance audits and has provided technical expertise in the development of report cards which integrate HEDIS and consumer survey data to support consumer decision making and performance monitoring activities by state and health plan officials.

Prior to joining The MEDSTAT Group, Mr. Asciutto was the Director of Quality Management for the Massachusetts Division of Medical Assistance (Medicaid) Primary Care Clinician (PCC) Plan. In this capacity, he oversaw the Quality Management Unit for the state-administered primary care case management program, which covered approximately 400,000 members. He was responsible for agency-wide clinical quality improvement initiatives that evaluated and improved processes of care, service utilization, health outcomes and satisfaction with health care delivery. He was also responsible for federal government reporting requirements for managed care quality management, which included measurement design, data collection, analysis and reporting for Medicaid managed care programs, including contracted MCOs. Mr. Asciutto led the agency's annual HEDIS, Member Survey (CAHPS), and Encounter Data initiatives and provided measurement and performance improvement expertise in the continued development and enhancement of the PCC Plan's PCC Profile Report.

Prior to joining the Massachusetts Division of Medical Assistance, Mr. Asciutto was a Senior Project Director at Harvard Pilgrim Health Care in Boston, MA, where he was a member of the management team in the Clinical Quality Measurement Unit of the Medical Director's Office. In this capacity he provided guidance and expertise in clinical quality measurement and research methodology and directed cross-functional research teams evaluating the quality and effectiveness of clinical programs, patient functioning, service utilization and satisfaction with care. He directed an extensive evaluation of corporate and local-level Asthma programs to inform the development of new initiatives, set performance goals, identify best practices for transfer across the corporation, monitor progress over time, and prepare for NCQA accreditation review.

Mr. Asciutto has extensive experience in applied research, measurement, and consultation, including large-scale survey and sampling design, data collection, analysis and reporting, health care quality management, applied clinical quality measurement, and program evaluation. He earned his MA in Applied Economics, his MPH in Public Health Policy and Administration, and his AB in Psychology from the University of Michigan, Ann Arbor.

The Basics

Marjorie Porell
Massachusetts Division of Medical Assistance

Marjorie Porell, MS

Ms. Porell has held several positions across the spectrum of health care settings since receiving a Master's of Science from Carnegie Mellon University in 1976. In her current position, as assistant director in the Information Analysis Unit at the Massachusetts Medicaid's Division of Medical Assistance, Ms. Porell is responsible for coordinating all systems resources related to all quality of care initiatives. She is also the lead system contact for Massachusetts in the area of encounter data. Ms. Porell has been with the Massachusetts Medicaid Program since 1994.

Quality Assessment and Improvement

Encounter Data -- The Basics

Marjorie Porell
Massachusetts, Division of Medical Assistance
HCFA/SAMHSA
Quality Assessment and Improvement Conference
September 26, 2000 St. Louis, Missouri

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA SOURCES

DATA COLLECTION PROCESSES

DATA ELEMENTS AND ASSESSMENT APPROACHES

DATA RESOURCES

DATA QUALITY

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA SOURCES

- Reliance on multiple and supporting data sources
- Encounter data may not be appropriate data source for all QA and QIP activities

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA COLLECTION PROCESSES

- Uniform
- Efficient
- Practical

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA ELEMENTS AND ASSESSMENT APPROACHES

- Comprehensive set of quality indicators
- Reliable Indicators

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA RESOURCES

- Limited

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY

- Field Specific
- Completeness
- Indicator Specific Validity

Quality Assessment and Improvement
Encounter Data -- The Basics

DATA QUALITY
FIELD SPECIFIC

MASSHEALTH ENCOUNTER FIELDS

- 16 Minimum Data Set (MDS) fields/86 in total
- Representing the following types of health care services
  - Facility (includes physician and all other health professionals)
  - Professional (includes physician and all other health professionals)
  - Prescription Drugs
  - Vision and Dental
  - Other types of *covered* health services

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY
FIELD SPECIFIC

MassHealth MDS

		Encounter Data Standards-Target	Encounter Data Standards-Minimum[1]	Plan X
DMA Critical Fields				
Claim Payer	% Present &Valid	100%	100%	100%
Plan Identifier	% Present &Valid	100%	100%	100%
Recipient MedicaidID	% Present	100%	100%	100%
Recipient DOB	% Present &Valid	100%	100%	100%
Recipient Gender	% Male	--na--	--na--	32%
	% Female	--na--	--na--	68%
Primary diagnosis [2]	% Present &Valid	98%	95%	96%
Secondary diagnosis [3]	Inpt. Facility % Present &Valid	60%	60%	88%
Primary procedure [4]	% Present &Valid	98%	90%	98%
DRG [5]	% Present	100%	--na--	0%
From Service Date	% Present	100%	100%	100%
Admission Date [6]	% Present	100%	--na--	100%
Discharge Date [6]	% Present	100%	--na--	99%
Servicing Provider Type	% Present &Valid	100%	95%	98%
Place of service	% Present &Valid	100%	95%	100%
Quantity	% Present	100%	100%	100%
Netpay	% Present	100%	100%	100%

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY

COMPLETENESS

- Encounter records must represent all covered incurred services

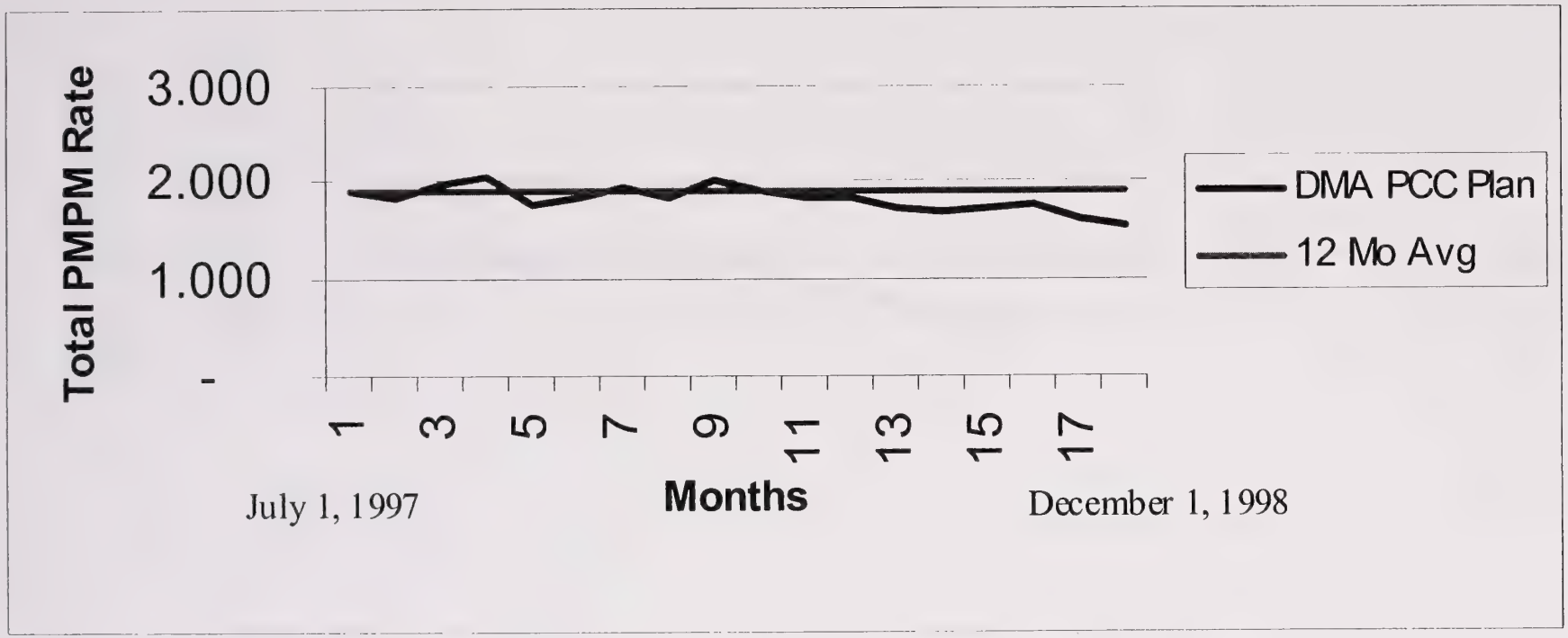
Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY COMPLETENESS

Encounter Record Counts

By Month



(excludes Rx, BH records)

July 31, 1999 Submission

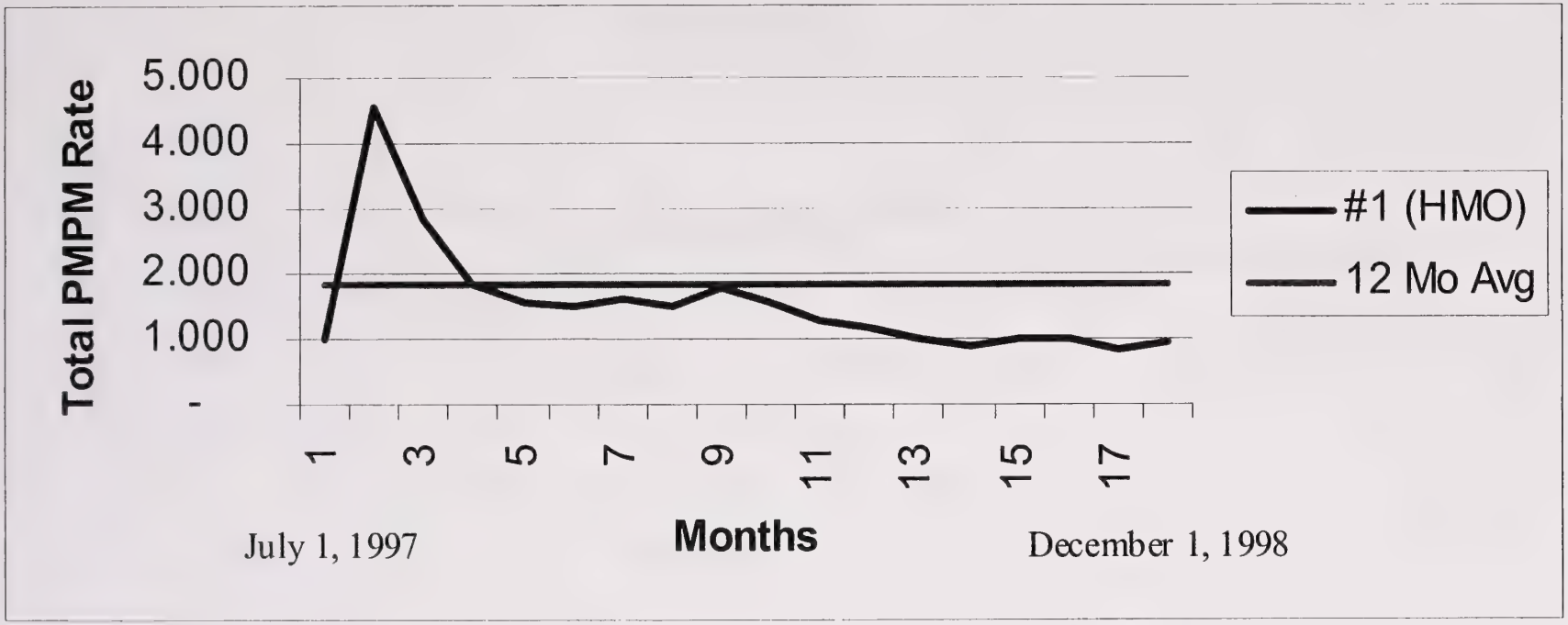
Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY COMPLETENESS

Encounter Record Counts

By Month



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July 31, 1999 Submission

Quality Assessment and Improvement

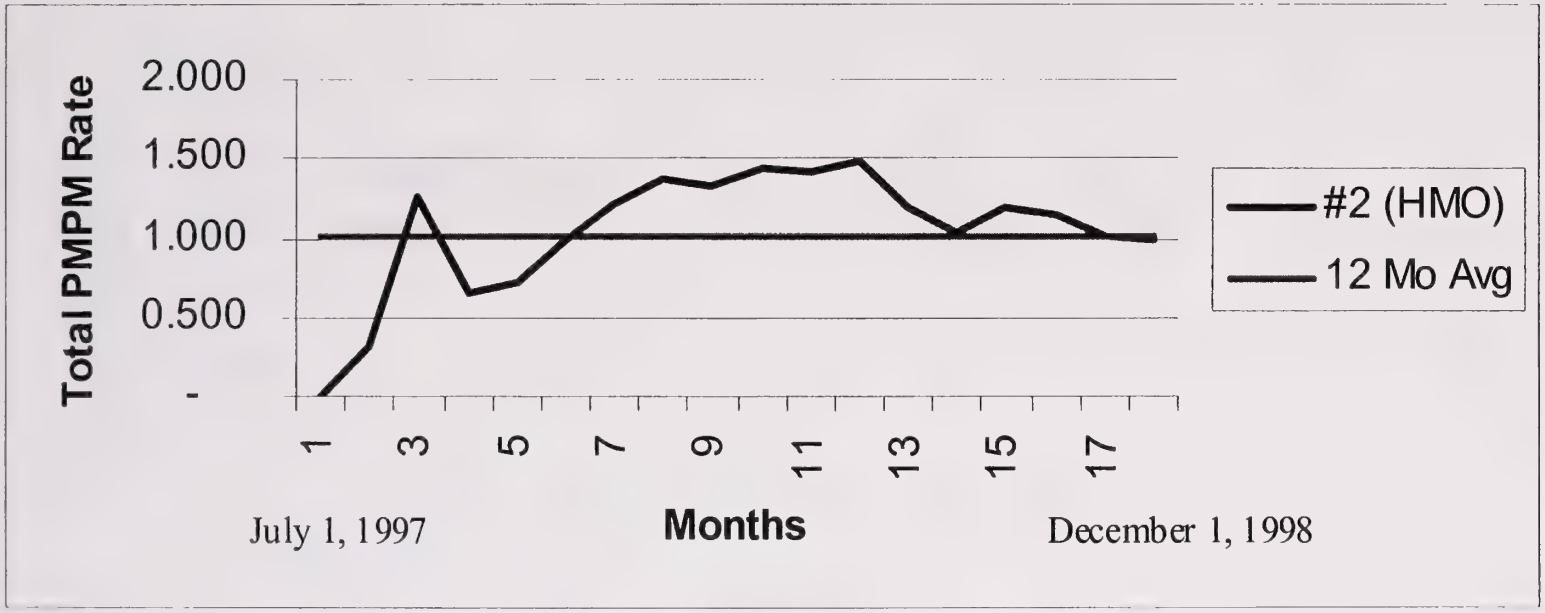
Encounter Data -- The Basics

DATA QUALITY

COMPLETENESS

Encounter Record Counts

By Month



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July 31, 1999 Submission

Quality Assessment and Improvement

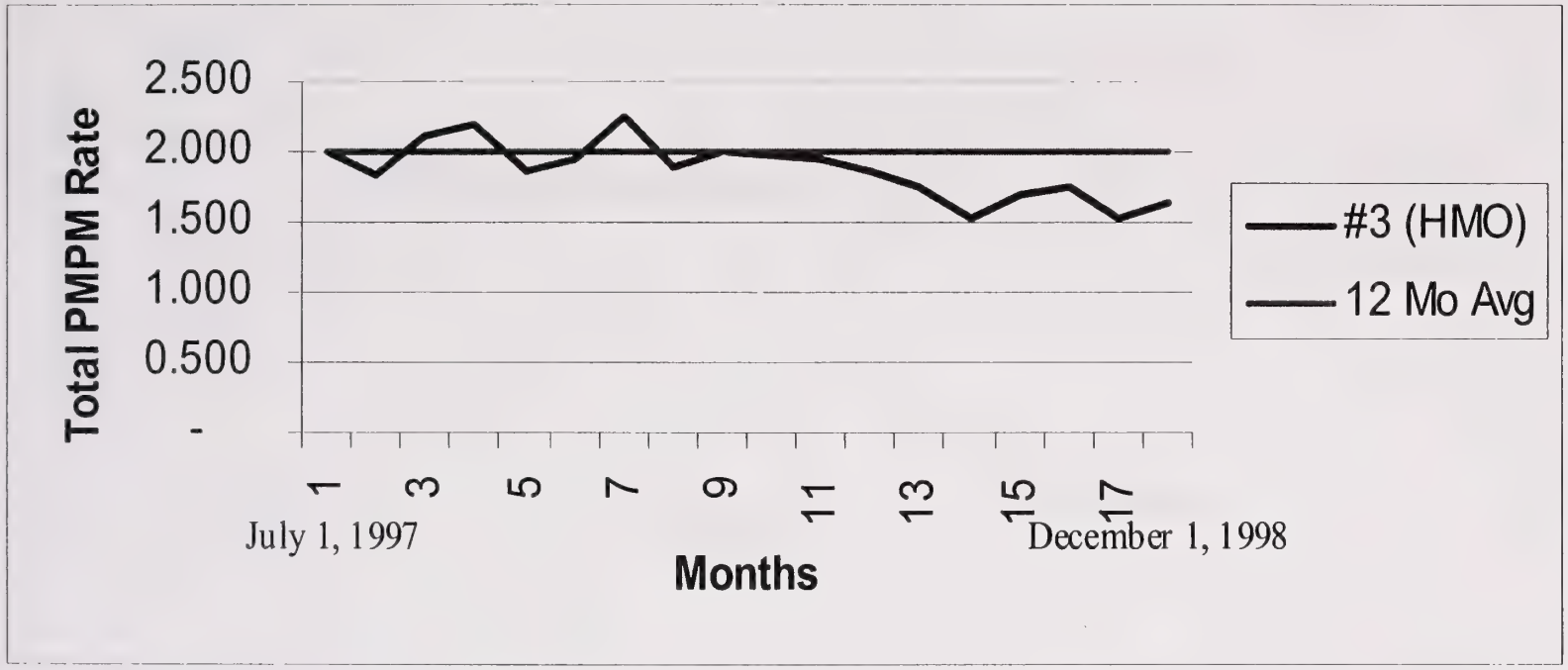
Encounter Data -- The Basics

DATA QUALITY

COMPLETENESS

Encounter Record Counts

By Month



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July 31, 1999 Submission

Quality Assessment and Improvement

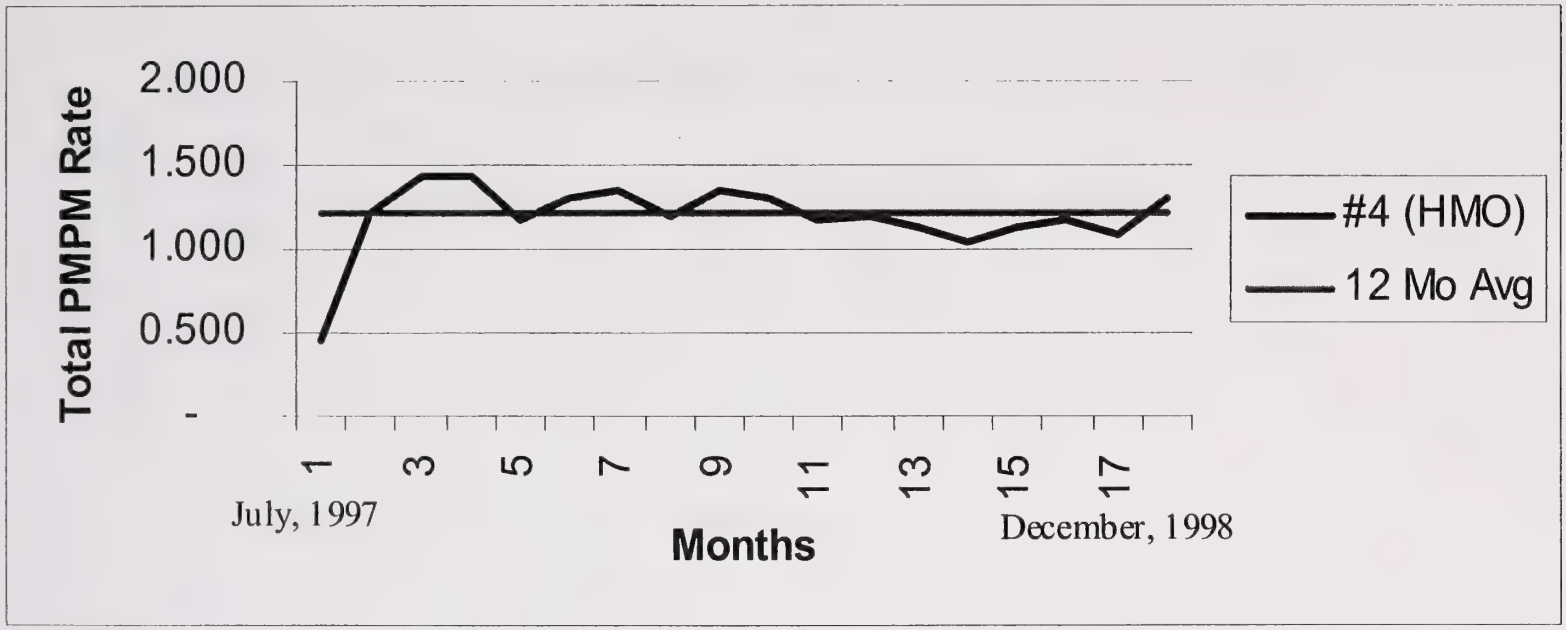
Encounter Data -- The Basics

DATA QUALITY

COMPLETENESS

Encounter Record Counts

By Month



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July 31, 1999 Submission

Quality Assessment and Improvement

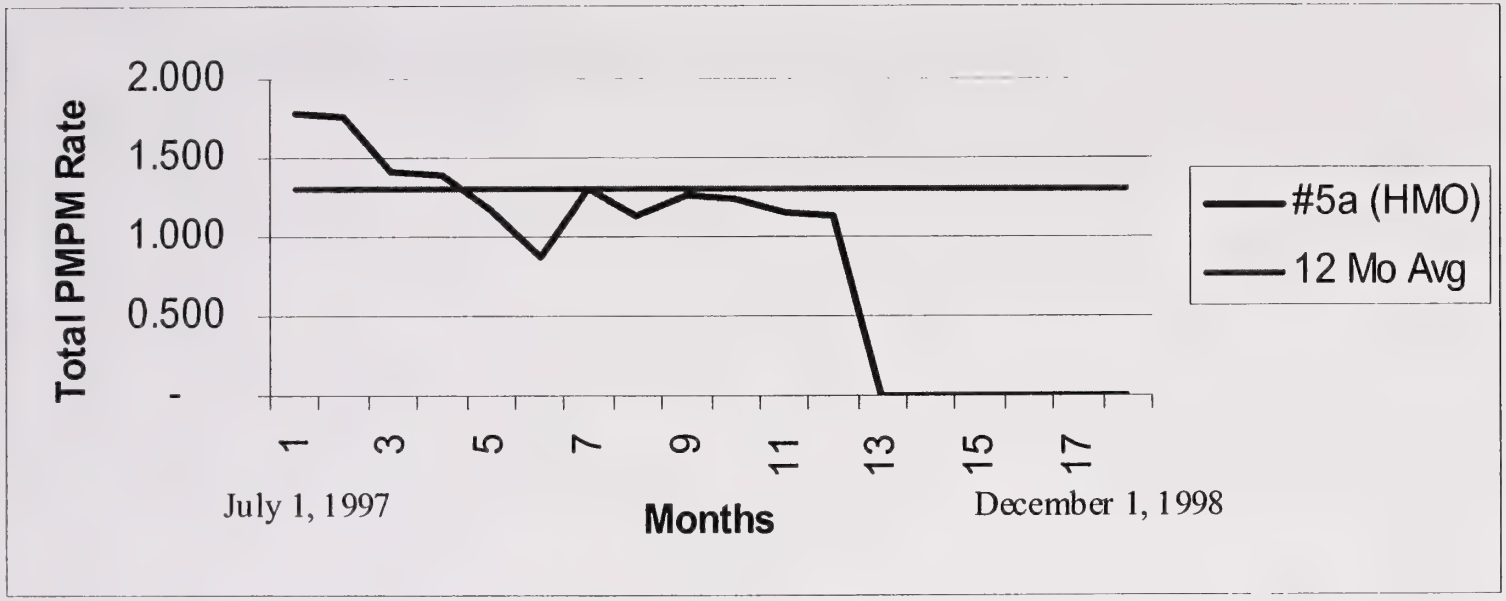
Encounter Data -- The Basics

DATA QUALITY

COMPLETENESS

Encounter Record Counts

By Month



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Quality Assessment and Improvement

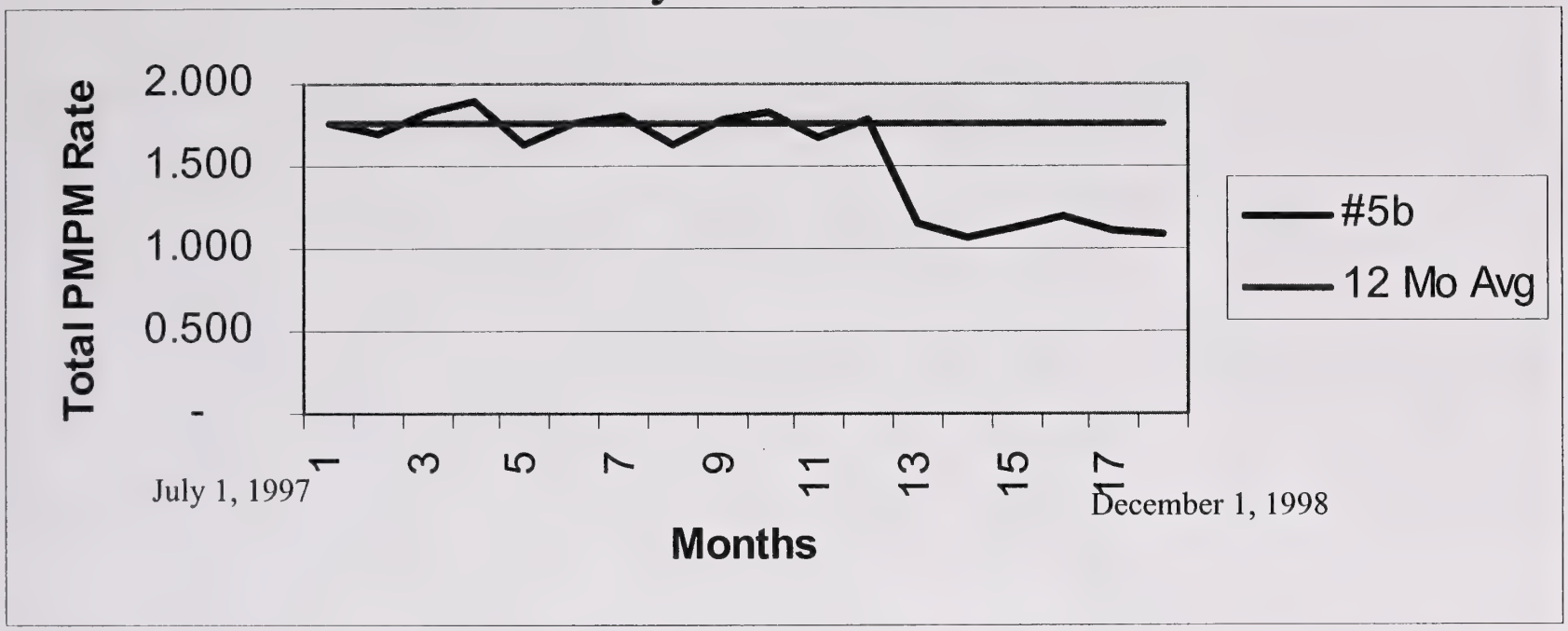
Encounter Data -- The Basics

DATA QUALITY

COMPLETENESS

Encounter Record Counts

By Month



(excludes Rx, BH records)

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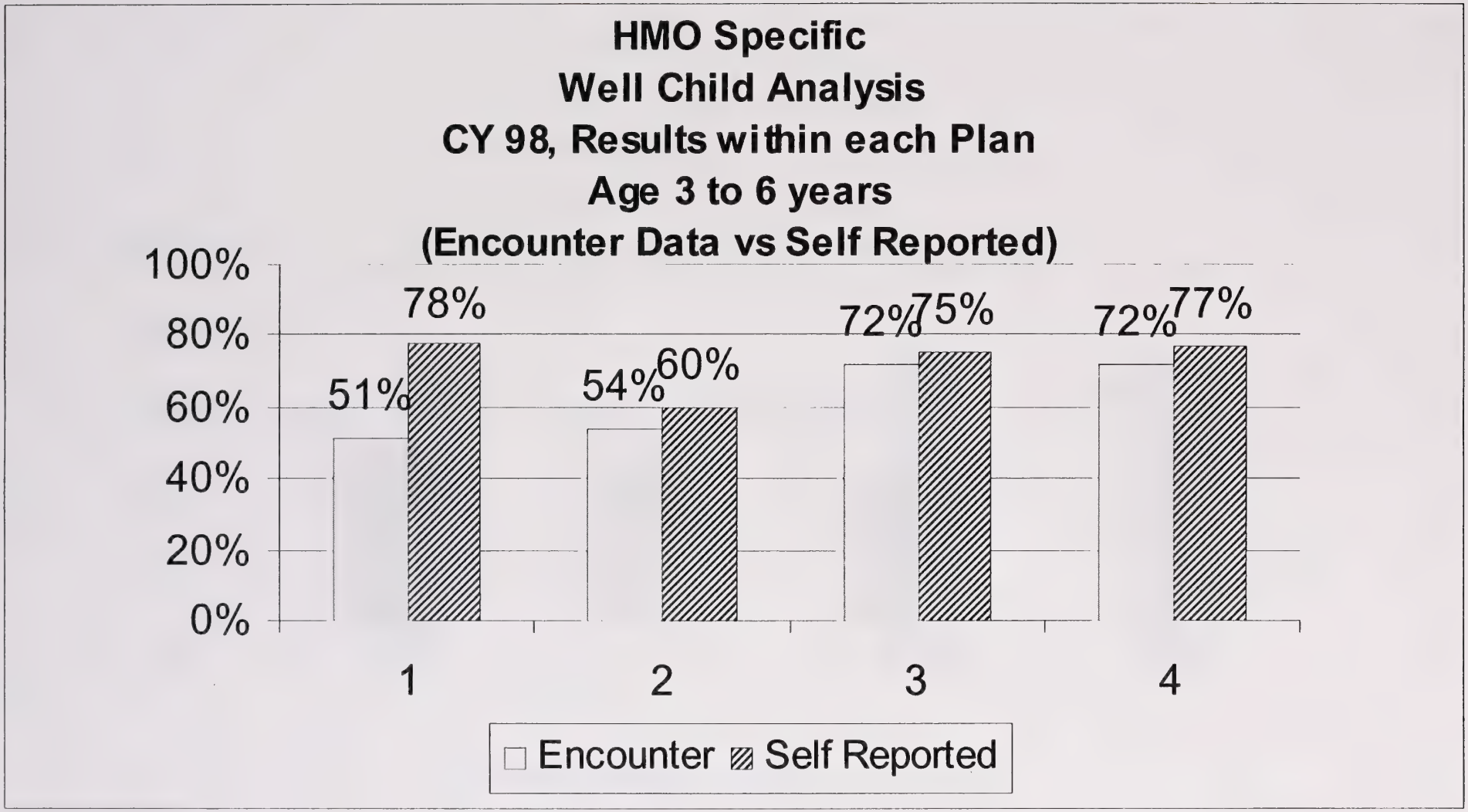
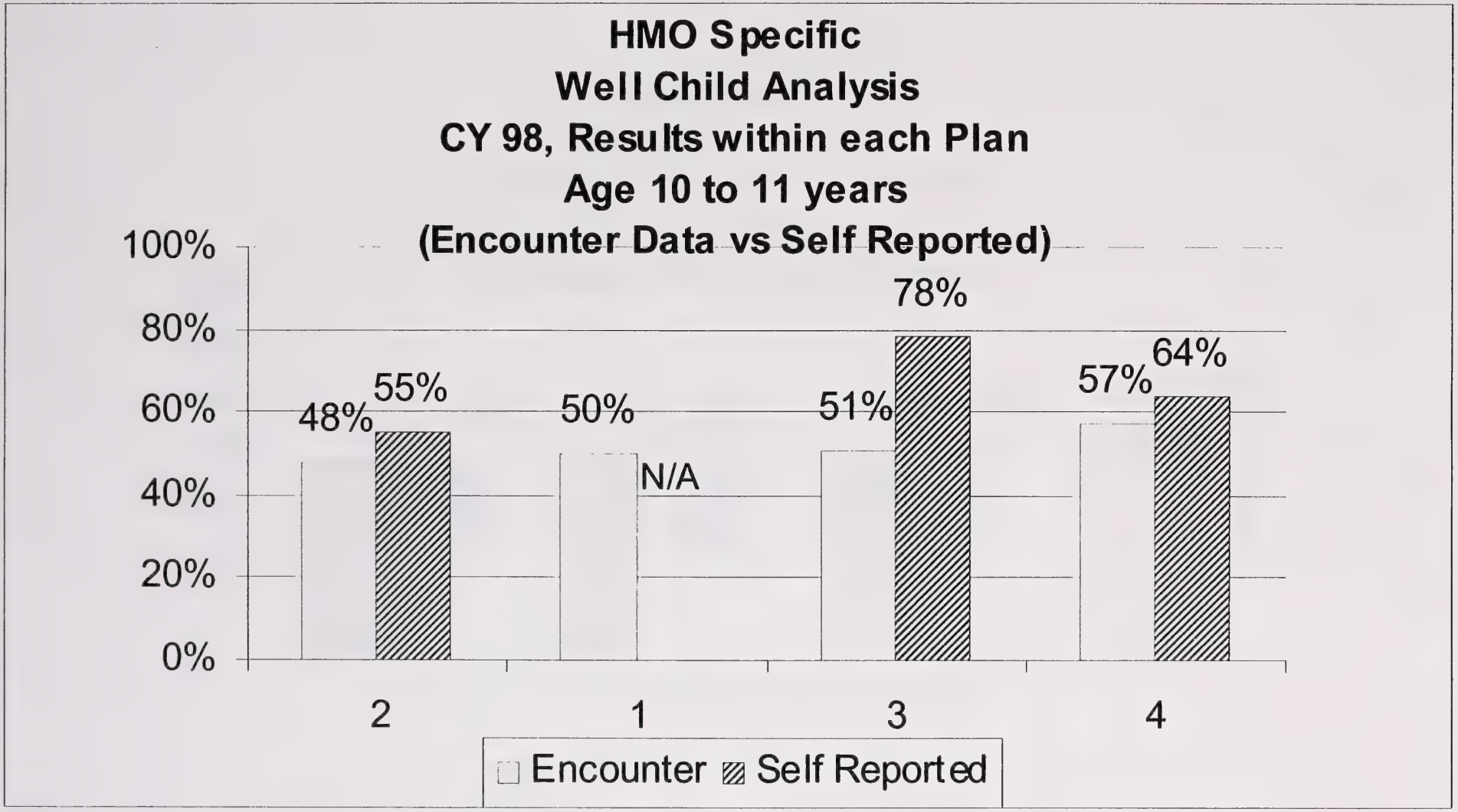
Quality Assessment and Improvement

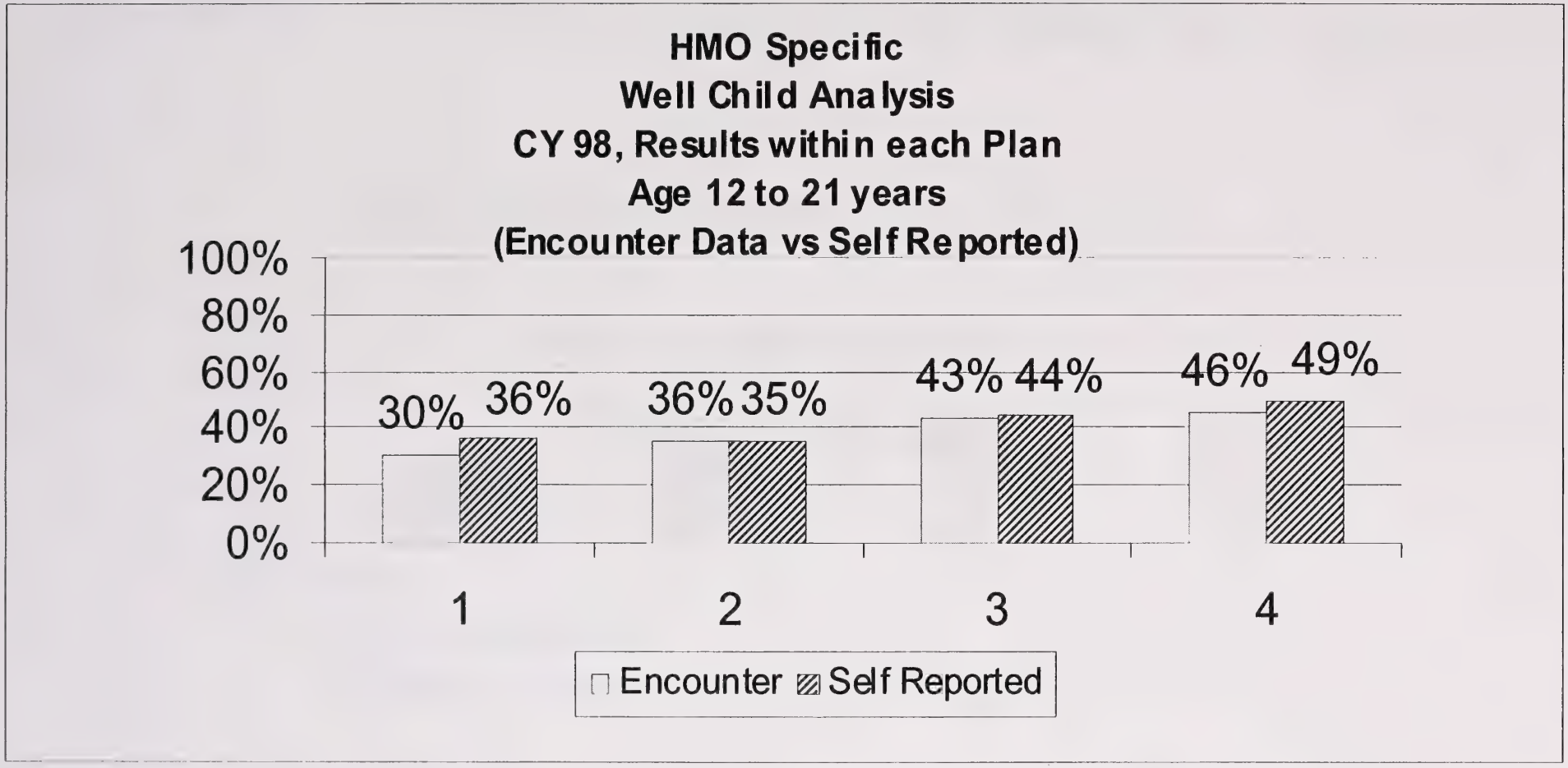
Encounter Data -- The Basics

DATA QUALITY
INDICATOR SPECIFIC VALIDITY

- Universally defined indicators
- Detailed specifications


HMO Specific
Well Child Analysis
CY 98, Results within each Plan
Age 3 to 6 years
(Encounter Data vs Self Reported)
100%
80%
60%
40%
20%
0%
51%
78%
54%
60%
72%
75%
72%
77%
1
2
3
4
Encounter
Self Reported


HMO Specific
Well Child Analysis
CY 98, Results within each Plan
Age 10 to 11 years
(Encounter Data vs Self Reported)
100%
80%
60%
40%
20%
0%
48%
55%
50%
N/A
51%
78%
57%
64%
2
1
3
4
Encounter
Self Reported


HMO Specific
Well Child Analysis
CY 98, Results within each Plan
Age 12 to 21 years
(Encounter Data vs Self Reported)
100%
80%
60%
40%
20%
0%
30%
36%
36%
35%
43%
44%
46%
49%
1
2
3
4
Encounter
Self Reported

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY
Chronic Illness

Examples:

- Behavioral Health
- Asthma or other Medical Chronic Illnesses

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY

Chronic Illness

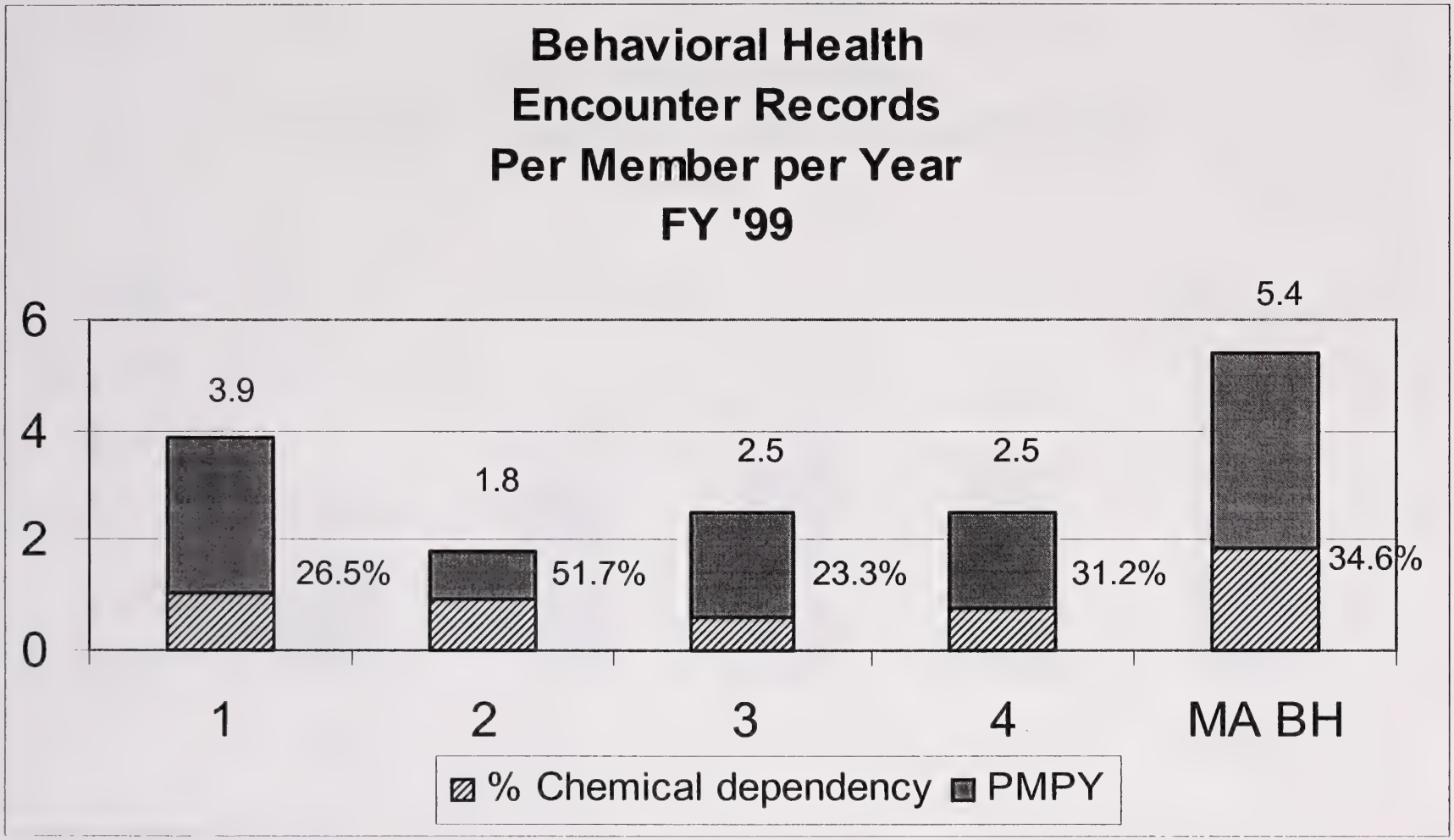
- **Issues:**
  - Identification of "true" clinical conditions (diagnosis, drug (NDC), etc.)
  - Contracted plans use of standardized codes
  - Small size of chronically ill populations for indicator development
  - Data quality issues more pronounced

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY

Chronic Illness

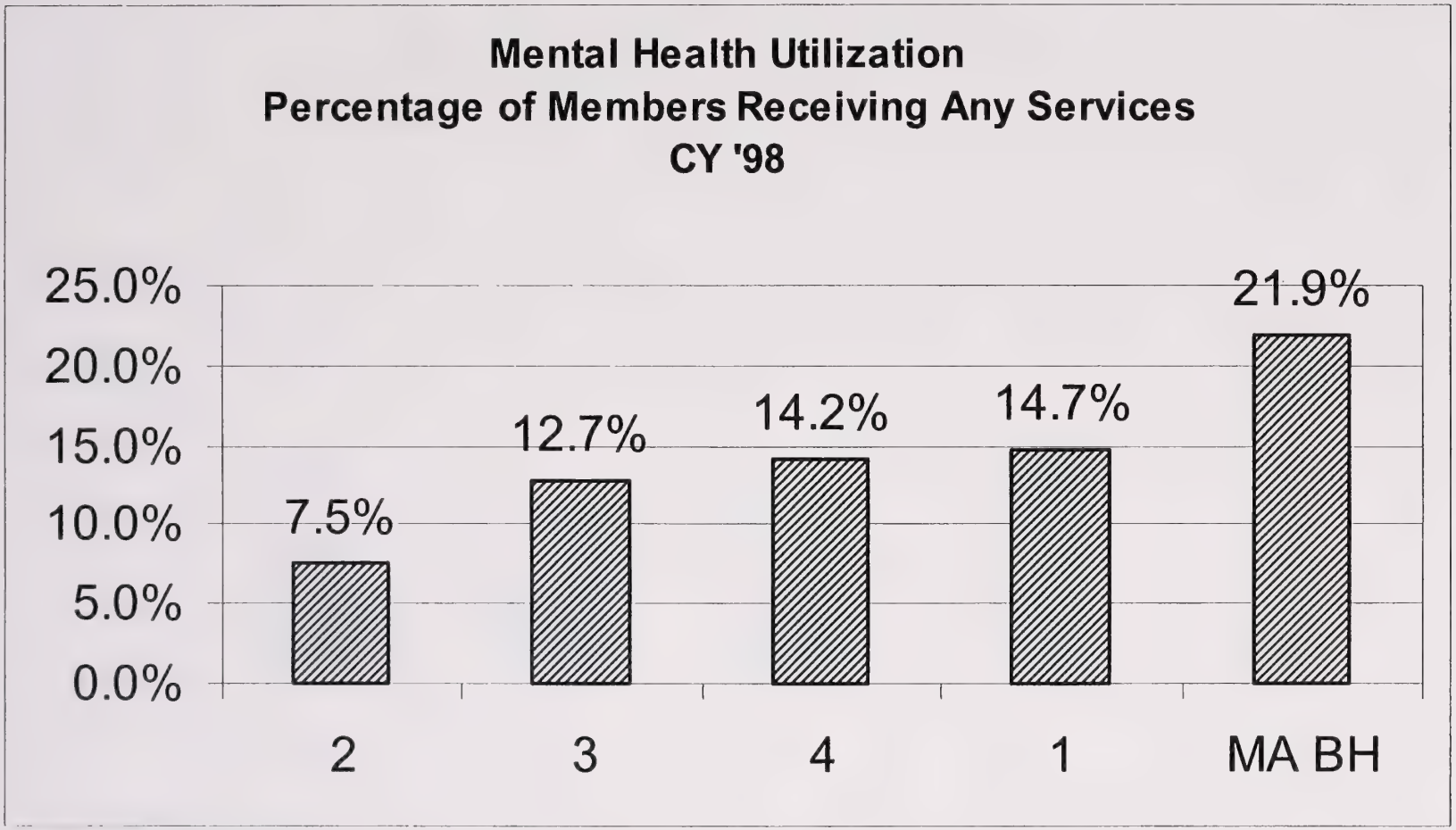


Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY

Chronic Illness



1-4: Self Reported Data

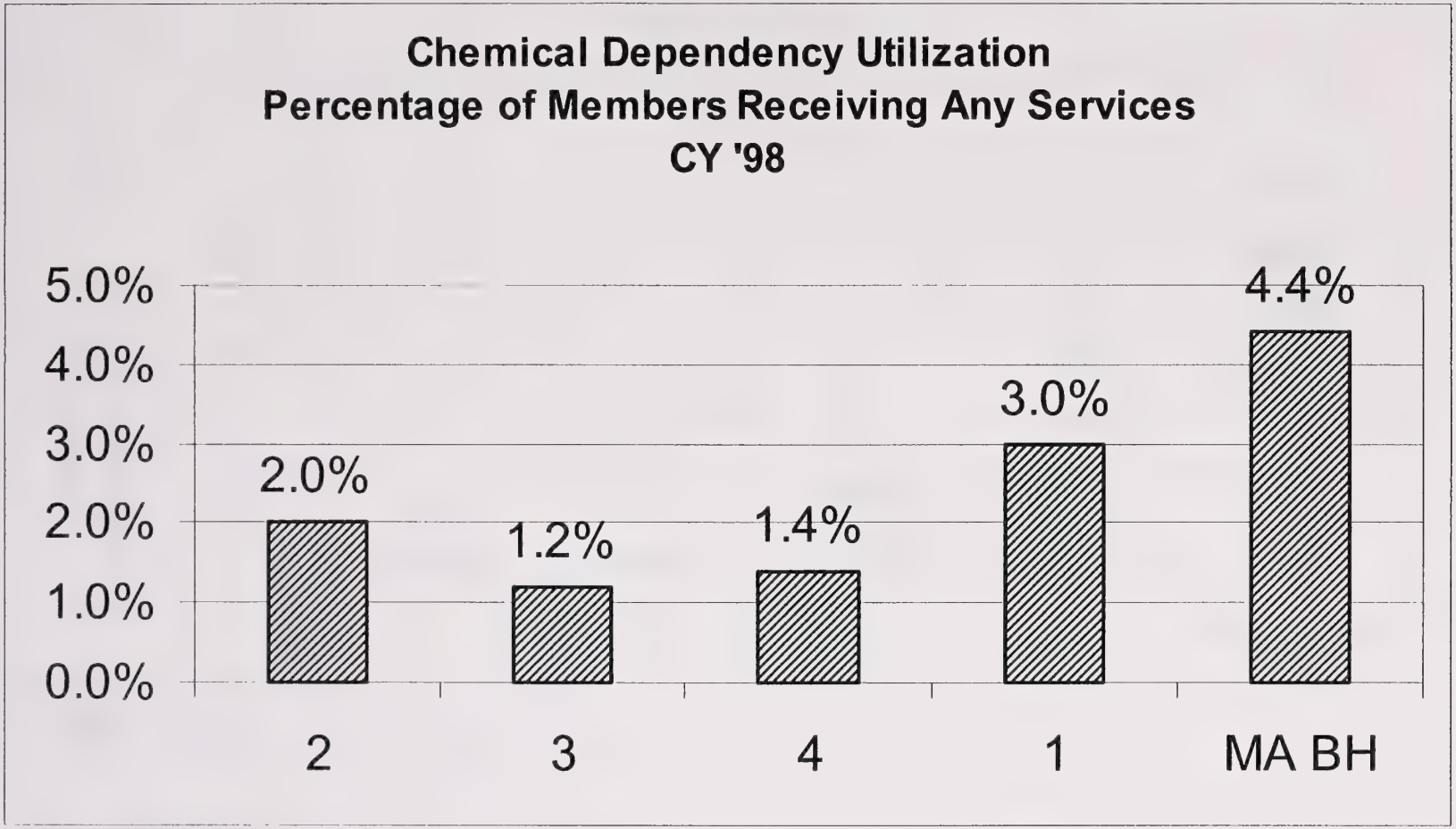
MA BH: Encounter Data

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY

Chronic Illness



1-4: Self Reported Data

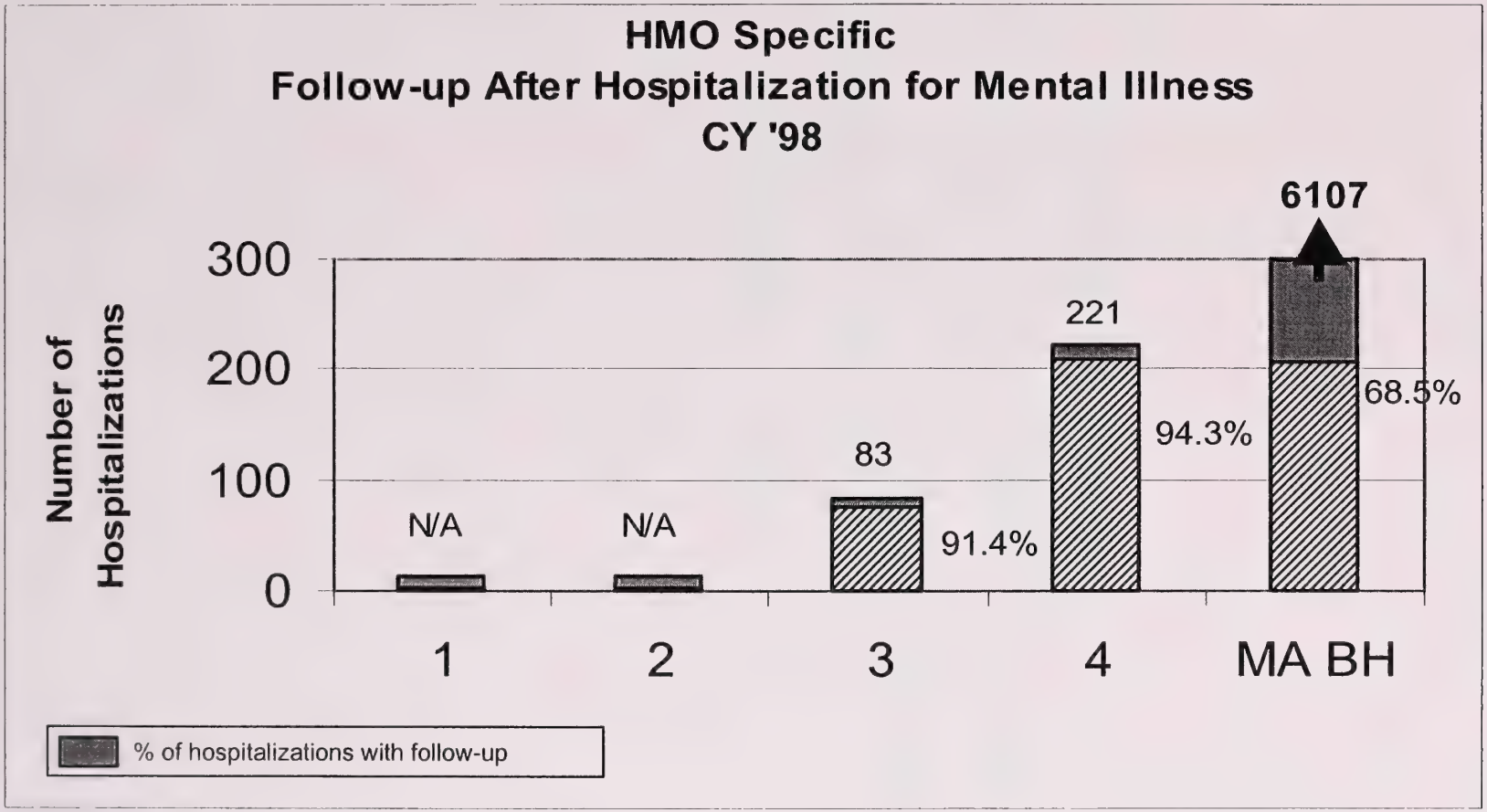
MA BH: Encounter Data

Quality Assessment and Improvement

Encounter Data -- The Basics

DATA QUALITY

Chronic Illness



1-4: Self Reported Data

MA BH: Encounter Data

Encounter Data: Lessons Learned When Using Encounter Data for Monitoring Quality in Behavioral Health Care

Lessons Learned When Using Encounter Data for Monitoring Quality in Behavior Health Care

James J. Linnane
Connecticut Department of Social Services

Use of Encounter Data to Monitor Behavioral Health Utilization

James J. Linnane

Health Care Finance

CT Department of Social Services

Connecticut Medicaid's Managed Care Program – HUSKY A

- **H**ealthcare for **U**ninsured **K**ids & **Y**outh
  - HUSKY A – Medicaid for kids (<185% FPL), families (<150% [01/01/01]), pregnant women (<185%)
    - 240,000 members
  - HUSKY B – Title XXI SCHIP (excluding Medicaid expansion) modeled on state employee coverage
    - 6,000 members
    - HUSKY Plus wrap-around to SCHIP for <300%
      - one behavioral health
      - one physical health, modeled on Title V CSHCN
    - No encounter data in HUSKY B or HUSKY Plus

History of HUSKY A CT Medicaid Managed Care

- Mandatory Managed Care Enrollment began 10/1/95
  - Excludes TCM, KB waiver, Inpatients until discharged
- Began with 11 MCOs
  - 3 were partial with no capitation for inpatient
  - Currently four MCOs
    - 2 are HMOs serving state employees
      - 1 HMO does not serve HUSKY B
    - 1 owned by FQHCs
    - 1 an HMO ultimately owned by Yale
      - Has given notice to withdraw but a buyer is in the wings

Oversight of HUSKY A

- Three DSS Units Provide Oversight
  - Managed Care Liaisons, Day-to-Day Contact
  - Program Analysis, Reporting, Quality
    - Contract with local PRO (Qualidigm) for EQRO
  - New unit monitoring grievances, Fair Hearings
- Children's Health Council, Independent Agency
  - Children's Health InfoLine, complaints, outreach
  - CT Children's Health Project, research & analysis
- Medicaid Managed Care Council, Legislative body
  - Membership of legislators, providers, advocates, state agencies, MCOs
  - subcommittees

Development of HUSKY A Encounter Data (1)

- HEDIS-based quarterly utilization reports required, but not enough for advocates, legislators
- CHC needs encounter data for tracking EPSDT
- January 1996, DSS asked MMIS Contractor (EDS) to collect encounter data from MCOs
  - Gap in quality/completeness between FFS MMIS claim standards & typical MCO encounter data
  - *Deal breaker issue* – how to back out erroneous data from MMIS
    - MMIS will not accept negative claims
    - PCAR must be on paper

Development of HUSKY A Encounter Data (2)

- Late 1996, EQRO subcontract with MEDSTAT to process encounter data
  - MEDSTAT reviewed MCO capabilities in 1997
    - Intense pressure to produce data for CHC needs
    - DSS decides initially to favor data completeness over quality
      - few required fields, less edits than MMIS
    - All data pre 7/98 eventually junked due to poor quality & incompleteness
- 8/1/00 new contractor (Mercer) began collection of data subject to MMIS type standards
  - Mercer is actuary, data to be used for cap rates

Factors contributing to data quality/completeness problems

- Some MCOs formed for Medicaid, no experience
- Many different systems due to carve-outs – Pharmacy, vision, dental, behavioral health,
- No incentive for data due to capitation of providers – PHOs, FQHCs, groups, individuals
- Unsophisticated systems of traditional Medicaid providers
- Home-grown codes
- Problems with identification of providers/clients

Common questions about use of behavioral health services

- What is the penetration rate?
  - Mental health
  - Substance abuse treatment
- What is the readmission or follow-up rate?
- What is the use of psychotropic meds?
  - Who prescribes?
  - Do they monitor?
- *How do these measures compare to benchmarks?*

How does CT HUSKY respond?

- Questions
  - Penetration rate?
  - Readmission rate?
  - Psychotropic meds?
  - Benchmarks?
- Method of Response
  - answer by MCO, could use encounter data
  - Use encounter data, but no methodology
  - Attempting to use encounter data, many problems
  - FFS, HEDIS, history, none
    - few & not quite comparable benchmarks due to population/provider differences

Encounter Data Problems & Solutions for Penetration rate

Currently self-reported by MCOs

- 4.9% for mental health in Jan.- March 2000
- 0.8% for substance abuse in Jan. - March 2000

- Data elements required
  - Unique client identification
    - One MCO gave carve-out a commercial client identification
  - Identification of provider type & service
- Using FFS experience as benchmark
  - Total of 4.75% quarterly in 1994

Benchmarks for penetration rate

- Leery of using other benchmarks because of population composition
- 12% of kids ever enrolled received behavioral health treatment
  - 38% of inpatient users are in child welfare
  - 5% of kids ever enrolled in HUSKY A are child welfare
  - Commercial HEDIS has no child welfare & has copays & deductibles
  - Other states may exclude child welfare or carve out behavioral health

Encounter Data Problems & Solutions for Readmission Rate (1)

- What % of patients discharged from inpatient behavioral health treatment are admitted again?
- Indicator of Quality
  - Was hospital treatment sufficient to allow return to community?
    - Did MCO discharge too soon?
    - Was there good discharge planning?
  - Was treatment in community sufficient to prevent relapse?
    - Was member able to get & keep appointments?

Encounter Data Problems & Solutions for Readmission Rate (2)

- Measurement:
  - Identify inpatient stays
    - What type of facility?
    - What diagnosis?
  - Identify discharge date
  - Identify subsequent admit date
    - How much time should elapse between discharge & subsequent admission?
- 2 rates in CT HUSKY measured from same data
  - CHC: any readmission, 25% in 30 days
  - DSS: allowing a weekend lapse, 13%

Benchmark for readmission rate & Follow-up treatment

- NCQA HEDIS does not specify lapse for readmission rate
  - Facilities in CT may be discharging & readmitting for planned home leave
    - Should we exclude these 'weekend passes'?
- Additional measure: How soon after discharge does treatment begin in the community?
  - HEDIS measures only patient visit to clinic or office
  - Home visits may work better with Medicaid clients
    - may be used more in CT
    - How to single out from other home visits

Identification of providers (1)

- Initial emphasis for provider enrollment was measurement of adequacy of access
  - enrollment caps based on ratios of members to providers by county
    - children's providers (pediatricians, etc.)
    - women's providers (ob/gyns, etc.)
    - dentists
    - behavioral health providers (psychiatrists, psychologists, social workers, counselors, etc.)

Identification of providers (2)

- In FFS Behavioral health services provided through clinics
- Enrollment caps shift emphasis to counting individual providers
  - To count providers, DSS needs them in MMIS
    - MMIS checks if they are in Medicaid
    - assigns a unique identification
    - allows for ensuring MCOs do not use sanctioned providers

Identification of providers (3)

- MCOs had problems enrolling providers in MMIS, too numerous to mention
- Favoring completeness over quality in encounter data meant less than perfect provider identification
  - same provider, different numbers
    - Medicaid #, FEIN, HMO #, group/clinic #
  - same provider, different names
    - last name first, first name first, group name, clinic name
    - Jones, John MD; John Jones MD; Dr. John Jones; etc.

Provider identification & medication monitoring (1)

- CT DSS, Qualidigm, & Yale studying use of psychotropics by children
  - how many kids
    - how often,
    - at what age
  - who prescribes
    - pediatrician or psychiatrist
    - does prescriber monitor the medication?

Provider identification & medication monitoring (2)

- Prescriber identification not on pharmacy claim because no edit for it
  - only solution, look at visits prior to dispensing
  - what if provider identified for last visit is clinic that employs both psychiatrists & pediatricians?
  - What if clinic was a SBHC that cannot or will not bill?
    - No data in the database.

What have we learned? (1)

- Ideally, introduction of innovation should include evaluation from the start
  - Evaluation requires clear goals
  - Evaluation requires good data
    - how do you know if goal achieved
    - need to prove or disprove anecdotes
- but, perfect can be enemy of the good
  - need to avoid analysis paralysis

What have we learned? (2)

- Clear goal for Medicaid managed care
  - cost containment at no loss in access
    - 'access' measured by availability or no new members unless provider base is equal
  - quality of clinical outcomes has not been a primary goal for FFS Medicaid
    - advocates assume quality = $
      - no limits on $ = > quality
      - cost containment = <quality

What have we learned? (3)

- Medicaid managed care marks first large scale interest in quality of clinical outcomes
- FFS claims payment system not a good 'fit' for managed care
  - capitation reduces need for claims
  - procedure codes based on inputs not outcomes
  - at least HIPAA will introduce commonality
    - but at enormous cost

What have we learned? (4)

- Good benchmarks still needed
  - particularly lacking in behavioral health
    - CT HUSKY reduced to comparisons with history
      - advocates/providers saw FFS as a 'golden age'
      - how to control for population change
- actuary must be responsible for data
- MCOs must know from the start that money depend on measurable outcomes

What have we learned? (5)

- Grant funders must build 'safety net' provider capacity for good data
  - build account payable systems so they get money due them from MCOs
  - build outcome measurement systems so they can demonstrate their value
  - legislators used to equate good intentions & non-profit status with quality, now they want hard numbers

Lessons Learned When Using Encounter Data for Monitoring Quality in Behavioral Health Care

Jack Wackwitz
Colorado Mental Health Services

Jack Wackwitz, Ph.D.

Jack Wackwitz received his Ph.D. in Psychology from the University of Illinois - Champaign. His academic training was in research methodology with emphasis in measurement, pyschometrics, statistics, research design, and mathematical modeling, in the contexts of social, experimental, and community psychology. He has spent his career teaching and applying his methodological expertise to the study and evaluation of human social problems and to the service systems designed to combat those problems. To this end, he has been involved as a researcher and evaluator in the areas of education, minority issues, substance abuse, public health, and mental health. He has taught graduate courses in methodology, developed innovative programs in community psychology, helped to design and evaluate state plans for substance abuse and mental health, and conducted surveys of disenfranchised populations. He developed a comprehensive evaluation system for persons with multiple substance abuse problems, including clinical charting, client assessment, program assessment, and service delivery. He is currently a researcher at Colorado Mental Health Services - the state mental health authority - where he works on special research, evaluation and policy projects including two CMHS funded projects. The 16 State Pilot Project, and Cornerstone: A System of Care for Families and Youth with Mental Health and Juvenile Justice Needs. Some of his recent work has included: Alternatives to hospitalization for persons in mental health crisis in rural areas; High risk consumers and resource reallocation; Level-of-Care and Level-of-Impairment Assessment; A Multi-state model theoretic analysis of the MHSIP consumer survey; and, Colorado's Standardized Evaluation System.

Using Encounter Data to Monitor Quality of Mental Health Services

Jack Wackwitz, PhD
Colorado Mental Health Services

Quality Assessment & Improvement Conference

St. Louis, Missouri

September 26, 2000

Assessing Quality of Services

- **Multiple Perspectives**
- **Merged/Integrated Information Systems**
- **Multiple Performance Indicators**
- **Quality Standards**
- **Quality Oversight/Review**
- **Outcome Assessment**

Assessing Quality of Services
Multiple Perspectives

- **Consumer**
- **Family**
- **Provider/Clinical**
- **Provider/Services**
- **Other Systems**

Assessing Quality of Services Merged/Integrated Information Systems

- **Data Quality Standards**
- **Accurate Date Information**
- **Multiple Identifiers**

Assessing Quality of Services
Multiple Performance Indicators

- **For Example:**
  - **CMHS's 16 State Study**
    - **16 Quality Indicators Out of 32 Total**
  - **Colorado's**
    - **16 State**
    - **Incentive System**
    - **Level-of-Care System**

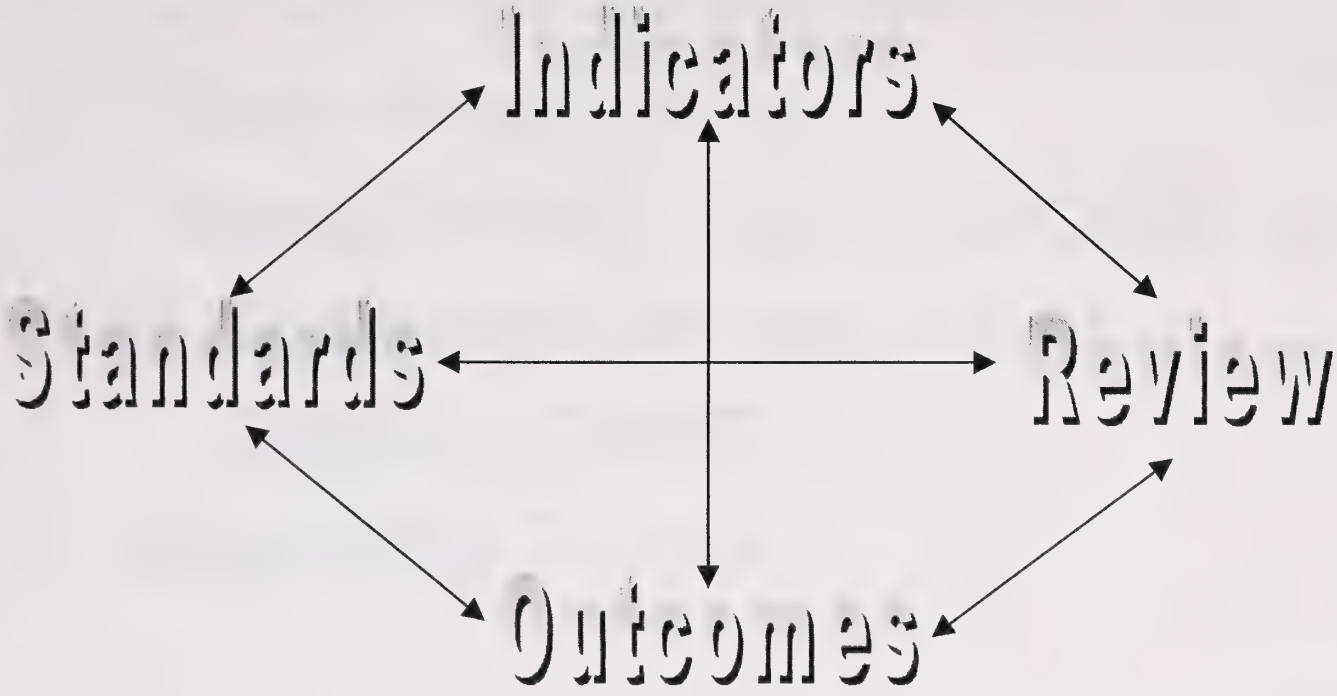
Assessing Quality of Services
Quality Standards

- **Best Practices**
- **Contractual Agreements**

Assessing Quality of Services
Quality Standards

- **Level-of-Care System**
  - **Quality Standards**
    - **Amount and Type of Service**
    - **Based of Level-of-Need**
      - **6 Levels**
      - **Standards Based on**
        - **Time**
        - **Amount of Service**
        - **Type of Service**

Assessing Quality of Services
Dynamic Loop



Assessing Quality of Services
Colorado's Public Mental Health System

- **Prior to FY95-96 Consisted of:**
  - **2 State Hospitals or Mental Health Institutes(CMHI's)**
  - **17 Community Mental Health Centers (CMHC's)**
  - **5 Specialty Clinics**

Assessing Quality of Services
Colorado's Public Mental Health System

- **In 1995 Medicaid Capitation Began for Part of the State**
- **In 1997 the Remainder of the State was Incorporated into the Capitation Program**

Assessing Quality of Services
Colorado's Public Mental Health System

- **Medicaid Capitation Organized Service Delivery through**
  - **Mental Health Assessment and Service Agencies (MHASA's)**
  - **At This Time There are 8 Geographically Based MHASA's**

Assessing Quality of Services
Colorado's Public Mental Health System

- **Two Major Data Systems**
  - **Colorado Client Assessment Record (CCAR)**
    - **Admission, Discharge, Annual Review**
    - **All Consumers of Community and State Hospital Services**
  - **Encounter/Shadow Claims (ENC)**
    - **Colorado 1500**
    - **UB92**

Assessing Quality of Services Milestones

- **70's CCAR v1 Statewide**
- **80's Colorado 1500**
- **FY9596**
  - **MEDICAID Capitation (Partial State)**
  - **CCAR v4**
  - **Data Standards in Contracts**

Assessing Quality of Services Milestones

- **FY9798**
  - **MEDICAID Capitation Statewide**
  - **CCAR v5**
  - **MHS Financial Audit ENC Data- Chart vs. Data System**
  - **Merge CCAR & ENC --- *First Attempt***

Assessing Quality of Services Milestones

- **FY9899**
  - **Require ENC Data on all Consumers**
  - **Clinical Audit of Level-of-Care (CCAR vs. ENC)**
  - **MHS Financial Audit ENC Data- Chart vs. Data System**
  - **Increase Data Quality Standards**
  - **Merge CCAR & ENC --- *Second Attempt***

Assessing Quality of Services Milestones

- **FY9899**
  - **Require ENC Data on all Consumers**
  - **Clinical Audit of Level-of-Care (CCAR vs. ENC)**
  - **MHS Financial Audit ENC Data- Chart vs. Data System**
  - **Increase Data Quality Standards**
  - **Merge CCAR & ENC --- *Second Attempt***

Assessing Quality of Services Milestones

- **FY9900**
  - **Increase Data Quality Standards**
  - **Clinical Audit of Level-of-Care (CCAR vs. ENC)**
  - **MHS Financial Audit ENC Data- Chart vs. Data System**
  - **Require Independent Audit of Chart vs. Data System**
  - **Increase Data Quality Standards**
  - **Merge CCAR & ENC --- *Third Attempt***

Assessing Quality of Services Milestones

- **FY0001**
  - **Require Independent Audit of Chart vs. Data System**
  - **Increase Data Quality Standards**
  - **Begin 3 Year Study: FY9798 – FY9900**
    - **Admission Clinical Characteristics**
    - **Service Utilization**
    - **Outcomes**
    - **Level-of-Care**

Assessing Quality of Services
Needs & Problems & Hurdles

- ***Data Standards***
- ***Data Controls***
- ***Retroactive Changes/Changes from Above***
- ***Multiple Indices***
- ***Different Types of Variables***
- ***Thick Skin***

Assessing Quality of Services Needs & Problems & Hurdles

- ***Retroactive Changes/Changes from Above***
  - ***Example:***
    - ***Procedures to Handle Change in Retroactive Eligibility Rules as of June 1, 2000***

Assessing Quality of Services
Needs & Problems & Hurdles

- ***Multiple Indices***
  - ***One Index was not enough in the beginning***
    - ***Colorado Uses Three***
      - ***Agency/Client_ID***
      - ***Medicaid_ID***
      - ***Unique_ID***
        - ***First 3 Letters of Last Name***
        - ***Birth Date***
        - ***Gender***

Assessing Quality of Services Needs & Problems & Hurdles

- ***Multiple Indices***
  - ***Original Matching***
    - ***As High as 35% Unmatched with One Index***
  - ***At This Time***
    - ***.5% to 6% Unmatched with One Index***

Assessing Quality of Services Needs & Problems & Hurdles

- ***Different Types of Variables***
  - ***Clinical Variables***
    - ***Most Everyone has Some of All Variables***
  - ***Service or Encounter Variables***
    - ***Most Everyone has None of Most Variables***

Assessing Quality of Services Needs & Problems & Hurdles

- ***Thick Skin***
  - ***"The 'problem' is CMHS is constantly taking the messiest, most convoluted path to solve a problem. You could not have made a system more complex if you had intentionally set out to do so."***

Assessing Quality of Services Summary

- ***Can't Wait Until Everything is "Right"***
- ***Set Up Control and Feedback Mechanisms***
- ***Emphasize Data Quality!!***
- ***Be Prepared to Change***
- ***Emphasize Data Quality!!***
- ***Be Prepared to Change***

Encounter Data: Lessons Learned When Using Encounter Data for Monitoring Quality in Acute/Preventive Care

Lessons Learned When Using Encounter Data for Monitoring Quality in Acute/Preventive Care

Joan M. Kapowich
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Joan M. Kapowich has more than 20 years experience in health planning, health policy development and data analysis. She spent 10 years in the Occupational Health field. She was the director of medical outcomes research and medical services for the largest workers' compensation carrier in Oregon. There she developed a provider, patient, treatment and managed care organization profiling system. In 1997, Joan started to work for the State of Oregon in the Office of Medical Assistance Programs (OMAP). OMAP is responsible for the administration of The Oregon Health Plan. She was manager of the Analysis and Evaluation Unit where quality improvement reviews, satisfaction and health status surveys, prevention and provider integrity audits and research were performed. Earlier this year she became the Program and Policy Unit Section manager for OMAP.

Joan earned a bachelor's degree with honors in Sociology from the University of California at Santa Barbara; a nursing degree from Lane Community College; and has taken graduate course work in health statistics, computer science and business at the University of Oregon and Willamette University.

Lessons Learned When Using Encounter Data for Monitoring Quality in Acute/Preventive Care

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New York Department of Health

Patrick Roohan

Patrick Roohan is the Director of the Bureau of Quality Management and Outcomes Research, Office of Managed Care, New York State Department of Health (DOH). As director, he is responsible for the evaluation of the managed care initiative and development of data systems for research and quality of care studies. Mr. Roohan has led a team of researchers in designing the new Medicaid Encounter Data System specifications, which has been reviewed and modified by managed care organizations. He has played an integral role in automating the Quality Assurance Reporting Requirements and provides technical assistance on clinical study design, reporting and analysis. He has supervised the development of the provider network system, a quarterly reporting system for managed care organizations describing in detail their network of providers. Mr. Roohan is the former Research Director of the Quality Initiative, and is involved in many quality measurement projects throughout the DOH. He has extensive experience analyzing data from various DOH data systems. Mr. Roohan received his Masters of Science in Operations Research and Statistics from Rensselaer Polytechnic Institute.

ADMINISTERING SURVEYS

I. PURPOSE OF THE PROTOCOL

Surveys of Medicaid beneficiaries or other entities are becoming an increasingly common method of health care quality measurement. Surveys can provide information that is not generally available through clinical or administrative records. Surveys also can capture beneficiaries', families', caregivers', providers', or other relevant parties' perceptions of access to care and quality of health services. However, in order for a survey to produce valid and reliable information (upon which to make valid and reliable judgements about health care access, quality, and/or timeliness), the design and administration of a survey must be carried out in accord with certain fundamental principles of survey design and administration. Therefore, this protocol describes the activities that must be undertaken in administering surveys if those surveys are to be included as a component of the external, independent quality review required under federal law for Medicaid managed care organizations (MCOs) and prepaid health plans (PHPs).

II. ORIGIN OF THE PROTOCOL

This protocol is based on generally accepted principles of survey design and administration. These principles are typically discussed in textbooks and other academic and research publications. The publications (or references) that were used in the development of this protocol are located in Appendix A.

III. PROTOCOL OVERVIEW

This protocol applies to all types of surveys; for example, beneficiary surveys and provider surveys. It does not recommend one particular survey instrument, sampling methodology or approach to analyzing and reporting study results because differences in the purposes of surveys preclude any one questionnaire, sampling methodology and analysis and reporting strategy from meeting all needs. In a number of instances, however, the protocol provides specific information about the Consumer Assessment of Health Plans Study (CAHPS) surveys and reporting formats, which were developed by the Agency for Healthcare Research and Quality (AHRQ) (formerly the Agency for Health Care Policy and Research - AHCPR) through cooperative agreements with the RAND Corporation, Harvard University, and the Research Triangle Institute. CAHPS surveys are frequently used by States to evaluate Medicaid beneficiaries' experiences with managed care.

This protocol assumes that the State Medicaid agency has made certain key decisions pertaining to: 1) survey goals and objectives (specifically, the question(s) the survey is designed to answer); 2) the intended audience(s) for survey findings; and 3) the selection of a survey instrument. The

State may make these decisions independently or in consultation with the States' External Quality Review Organization (EQRO)[1] at the discretion of the State.

The protocol specifies eight activities that must be undertaken as part of a methodologically sound survey:

1. Identification of survey purpose(s) and objective(s)
2. Identification of intended survey audience(s)
3. Selection of the survey instrument
4. Development of the sampling plan
5. Development of the strategy for maximizing the response rate
6. Implementation of the survey
7. Preparation and analysis of the data obtained from the survey
8. Documentation of the survey process and results

IV. PROTOCOL ACTIVITIES

The eight activities comprising this protocol are discussed below. EQROs should use a work sheet such as that found in Appendix B to assist in and document the implementation of these activities.

ACTIVITY 1: Identification of survey purpose(s) and objective(s).

The EQRO must have a clearly written statement of the State's purpose(s) and objective(s) for administering the survey. These decisions will shape the survey methodology, administration, and analytical approach. The EQRO should have in writing the answers to the following questions: "What does the State want to learn by administering the survey?" and "What does the State plan to do with the survey results?" Typically, States will want to obtain survey information to help monitor and evaluate the quality of care provided to Medicaid beneficiaries, assist Medicaid beneficiaries to choose between MCOs, and/or promote quality improvement initiatives. Although a State may have multiple purposes for a given survey, for purposes of this protocol, one of the stated purposes of the survey must be to assess -- either alone or in combination -- the access, quality, and/or timeliness of care received by Medicaid beneficiaries enrolled in individual MCOs/PHPs.

The purpose(s) and objective(s) of the survey will also determine the survey's *"unit of analysis."* The unit of analysis refers to the type of entity about which the State wishes to obtain information. The unit of analysis may be, for example: individual MCOs/PHPs, the State's

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[1] A State may choose an organization other than an EQRO as defined in Federal regulation to administer a survey. However, for convenience, in this protocol we use the term "external quality review organization" (EQRO) to refer to any organization administering a survey.

managed care initiative as a whole, or a particular group of providers. Thus, the unit of analysis also greatly influences the design, conduct, and analysis of the survey. Although the State's survey may address multiple units of analysis, at least one of the units of analysis must be the individual MCOs/PHPs participating in the survey; i.e., the survey must be designed to provide representative and generalizable information about individual MCOs/PHPs.

Following the determination of the survey's purposes(s) and unit(s) of analysis, more detailed objectives, derived from the purpose, should be stated in writing. Objectives should be concise, explicit and measurable. For example, if the purpose of the study is to discover how satisfied Medicaid managed care enrollees are with their health care, more specific objectives might include:

- Determining if enrollees of individual MCOs/PHPs are satisfied with their access to speciality care.

- Determining if enrollees of individual MCOs/PHPs are involved in planning for their own treatment.

- Determining if enrollees of individual MCOs/PHPs are satisfied with the quality of their interactions with their primary care provider.

ACTIVITY 2: Identification of intended survey audience(s).

The EQRO also must know who is/are the State's intended audience(s) for the survey results. The intended audience(s) will have implications for the design, administration and analysis of the survey. While the primary audience is the State Medicaid agency, which will use the survey results as part of external quality review, other audiences, identified by the State, could include:

- *Medicaid beneficiaries and their families who are choosing between fee-for-service (FFS) and MCOs/PHPs, or among Medicaid MCOs/PHPs.* Survey information increasingly is viewed as one source of information to assist the consumer in making an informed choice. This requires that the survey be designed to enable MCO/PHP - to - MCO/PHP comparisons.

- *MCO/PHP managers and providers, who can use the survey results to identify areas of superior health service delivery as well as areas that need improvement.* When surveys will be used to provide information to MCOs/PHPs, the State will need to develop a policy that specifies whether or not the MCO/PHP will be able to receive, or have access to, individual enrollee survey results or just summary, plan-level information on their enrollee's survey results in the aggregate. Providing MCOs/PHPs with survey results for individual enrollees could violate enrollee confidentiality and potentially subject enrollees for adverse action by the MCO/PHP. Even if the enrollee's name or other identification is

removed from the survey response form, there remains a concern that a MCO might still be able to identify a particular survey respondent by his or her responses. Because of this, the Medicare program does not allow its contracting MCOs to receive individual-level survey data, even when the surveys are stripped of enrollee identifiers. Medicare is, however, establishing a mechanism for MCOs to request special analyses of their own data since they cannot receive the individual-level data themselves.

- *State policy makers who can use survey findings to monitor how Medicaid beneficiaries perceive the care they receive under the State's managed care initiative.* In this case, the survey analysis would need to provide information on the State's managed care initiative as a whole, as well as on individual MCOs/PHPs.

It is important for the State to clearly identify the intended audiences to the EQRO, as this will significantly affect the format of the report(s) prepared by the EQRO for the State. Because of this, the State will need to identify the audiences for which it wants the EQRO to prepare reports. Sometimes the State will want the EQRO to prepare reports only for the State Medicaid agency, after which the Medicaid agency will prepare reports for other audiences. In other situations, the State may want the EQRO to prepare survey reports in multiple formats for different audiences.

ACTIVITY 3: Selection of the survey instrument.

The State will determine the survey instrument to be used. The State may do so independently or in consultation with the EQRO, at the discretion of the State. There are three approaches to selecting a survey instrument for use: 1) use an existing instrument; 2) develop a new instrument; and 3) adapt an existing instrument. The State's decision with respect to these choices should be consistent with the survey purposes, objectives, and units of analysis, and should promote the collection of reliable and valid data (reliability and validity).

Reliability refers to: 1) the internal consistency of a survey instrument; and 2) the reproducibility of survey results when the survey is administered under different conditions; e.g., by different people, or at different times. Internal consistency requires that positive statistical correlations exist between questions within a survey. In other words, a respondent's answers to particular survey questions should not contradict the respondent's answer to other survey questions. Answers should be consistent across related questions. Reproducibility means that a tool yields the same results in repeated trials. For example, a grocery store scale should show the same weight each time the same bag of produce is measured. If it shows a different weight, it is unreliable. Similarly, a survey instrument's questions should not be answered differently depending upon who is administering the survey or in what location or manner the survey is administered. Survey questions also should be clear so that individuals responding to the same question in the survey will not interpret the same question differently.

Validity refers to the degree to which a tool captures what it is intended to measure. Different

types of validity measurement include: face validity, content validity, construct validity, and criterion-related validity. Face validity is also known as logical validity and ensures that the tool generates common agreement and/or mental images associated with a concept about which the survey is asking. This type of validity does not involve statistical analysis, but is an opportunity to determine if a concept is well addressed by a question or questions in a survey. This can be accomplished through a review that may include one or more focus groups whose primary purpose is to agree/disagree on whether the survey, *on its face,* is capturing the concept to be addressed by the survey. Content validity builds on face validity by asking whether the survey fully captures and represents the concept under study. This type of validity is typically established by a review for relevance by individuals with expertise in the subject matter addressed in the survey. Content validity also is not established using statistical procedures. Rather, it is established by agreement from experts in the topic under study.

Construct and criterion validity are more sophisticated measures of validity and require more time and resources to assess. Construct validity assesses how well the test measures the underlying issue (e.g., access to care, satisfaction with care, satisfaction with providers) it is supposed to measure. Criterion validity measures how well the performance on a test reflects the performance on what the test is supposed to measure. There are two types of criterion validity: concurrent and predictive. Concurrent validity uses a correlation coefficient to compare the survey to a "gold standard" survey for measuring the same variable. Predictive validity measures the survey's ability to "predict" future outcomes and also uses a correlation coefficient for comparison. While no instrument is ever determined to be "perfect' with respect to reliability and validity, the greater amount of reliability and validity testing, and the greater the positive findings with respect to reliability and validity that are associated with a given survey instrument, the greater confidence an EQRO can have in a survey's findings.

The CAHPS survey instruments and reporting formats have undergone rigorous testing for reliability and validity, including focus group interviewing, cognitive interviewing, and field-testing. However, if a State chooses to use another instrument, develop one of its own, or modify an existing instrument, at a minimum, it should promote reliability and validity by first establishing face and content validity, then pretesting the tool for reliability. Face and content validity can be established by convening one or more focus groups that include beneficiaries and individuals with subject matter expertise. Reliability can be assessed using the test-retest method in which the survey is administered to the same group at two different times. A correlation coefficient is calculated and indicates the reproducibility of results. Correlation coefficients with r values at or above 0.70 indicate good reliability.

Option: using existing survey instruments. Because of the resources required to develop and test new survey tools, many States will choose to use an existing survey instrument - especially one that has undergone strong reliability and validity testing such as CAHPS. CAHPS testing included cognitive testing during the development and evaluation phases, calculation of reliability estimates in a sample of Medicaid enrollees and private health insurance purchasers, and convening of focus groups to test relevance of survey concepts and items. In addition,

CAHPS surveys include a free, easy-to-use CAHPS Survey and Reporting Kit. The kit contains a set of mail and telephone survey questionnaires including Spanish language versions, sample reporting formats, and a handbook with step-by-step instructions for sampling, administration, analysis, and reporting. The handbook's instructions are easy to understand and allow for flexibility within the sample and analysis design. The handbook also includes a comprehensive, statistical software package as well as the telephone number and e-mail address of the technical assistance hotline.

There are a wide variety of other existing questionnaires that can be selected as the survey instrument. While some have undergone extensive reliability and validity testing, others have been developed with little or no testing for reliability and validity. Unless the developers of an existing survey can describe an instrument's reliability and validity testing and results, an instrument's reliability and validity should always be suspect. Even pre-existing, validated survey instruments may not have been validated in a Medicaid population. Selection of instruments not validated in a Medicaid population may not yield valid or reliable results for this population.

Another advantage of selecting an existing instrument is that use of the same questionnaire, methods, and analysis for surveys of MCOs/PHPs, population groups, and States, permits a State to compare its findings against those of other studies. For example, standardization of the survey instruments, methodology, and report formats in CAHPS provides reliable and valid measures that can be compared across MCO/PHPs, across MCO/PHPs and fee-for-service (FFS), as well as across a wide range of respondents and States.

When using an existing survey instrument for External Quality Review, the EQRO should be able to document the extent of reliability and validity testing of the survey instrument.

Option: developing new survey instruments. In some cases, a State may decide to use a new survey that it or a State contractor develops. Usually a State will choose to develop a new survey instrument when the purposes and objectives of the study require answers to questions that are not addressed by existing instruments. A well-designed, State-specific instrument can capture information that is of great interest and relevance to the questions under study. However, assuring the reliability and validity of new surveys is costly and takes time. Without such reliability and validity testing, surveys can have serious methodological shortcomings and be vulnerable to criticism. A 1997 report by the Department of Health and Human Services (DHHS) Inspector General, "Medicaid Managed Care: The Use of Surveys as a Beneficiary Protection Tool" found that some State-specific surveys were designed to meet too many objectives and provided little useful data. When developing new survey instruments and methods for purposes of External Quality Review, the State Medicaid agency should involve an individual with experience in survey design and methodology and assure testing of the instrument for validity and reliability.

Option: adapting existing surveys. States also may decide to adapt an existing questionnaire by adding or deleting items, modifying questions, or using only certain groups of questions to

respond to a specific issue under study. This approach provides States with the flexibility to add or change the data to be collected, while providing many of the advantages of using a pre-existing questionnaire. However, this approach also can raise questions about the validity and reliability of the new or modified questions, as well as the survey overall. Validated instruments are tested "as a whole," and modifications can change the focus and purpose of the tool. Adapting an existing survey is easier if CAHPS is used, as the CAHPS survey instruments have been specifically designed with opportunities to customize the questionnaire by adding questions from a list of supplementary optional items, as well as State-designed questions. Most pre-existing questionnaires are not designed to accommodate such modifications and require additional testing. Modifications and additional testing is time intensive and will likely result in increased costs. When a State undertakes to adapt an existing tool for its purposes, it should obtain the advice of an individual knowledgeable in survey design (preferably knowledgeable about the original survey) to advise on the modification and how to appropriately test for reliability and validity.

ACTIVITY 4: Development of the sampling plan.

When the State decides to collect information directly from beneficiaries, providers, or other unit of analysis, it must decide how may *"units"* will need to be surveyed. A State could decide to take a *"census;"* i.e., ask every individual entity which the survey is designed to represent, to answer the survey questions. For example, a State could decide to survey all Medicaid beneficiaries or all Medicaid participating providers. However, because the cost of contacting all these entities is expensive, surveys typically are administered to only a portion (a "sample") of the target population. Whenever a sample, as opposed to a census, is used, it is very important to select the sample members in a way that represents as closely as possible the population about whom information is desired - both those included in the sample, and those not selected to respond to the survey.

Step 1: Identify the study population.

Sample selection begins with the identification of the population to be studied; e.g., all Medicaid beneficiaries enrolled in a State's Medicaid managed care initiative, or all children with special health care needs. The *"population"* represents all units of analysis (sometimes referred to as *"the universe"*). A good sample is a smaller version of the population to be studied and is representative of the population in terms of certain pre-identified characteristics (e.g., race, age, MCO/PHP affiliation.)

Step 2: Define the sample frame.

Once the target population for the survey is identified, the population from which the sample will be drawn must be further refined. This is the *"sample frame."* The sample frame lists all members of the study population *eligible for the study* and is used to select the sample. Questions

used to define individuals eligible for the survey (the sample frame) might include, for example:

Is a minimum period of enrollment in a MCO/PHP necessary for individuals who will be surveyed? Must the beneficiary be continuously enrolled in a specific MCO/PHP for a specified period of time to be considered an enrollee for purposes of the survey? Frequently, a minimum period of continuous enrollment, such as six months, is required to increase the likelihood that enrollees have had contact with their specific MCO/PHP.

Should any MCO enrollees be excluded? Why? For example, if a study population is to address children with special health care needs, should the survey be limited to only children receiving SSI or Title V, or should it address all children that a MCO/PHP might identify as having special health care needs, or should it include all children whose family might identify them as having a special health care need?

Should only one member per household be surveyed?

Will children be surveyed?

When is open enrollment and how will it impact survey administration?

Step 3: Determine the type of sampling to be used.

There are two basic types of statistical sampling: probability sampling and nonprobability sampling. Probability sampling leaves selection of the units to be included in the survey up to chance. It is designed to prevent any biases in the sample selected by ensuring that each segment of the study population is represented in the sample to the extent it composes part of the population under study. Simple random sampling is the most common form of probability sampling used in survey research. Population members are generally assigned a number, and random numbers generated by a computer or table of random numbers are used to select members from the population. This sampling approach ensures that all members of the target population have an equal chance of selection. The sample is thus assumed to be fully representative of the population.

Stratified random sampling also may be used. This technique calls for dividing the population (on the basis of prior knowledge about the population) into specific, pre-identified strata or subgroups that are homogeneous within themselves with respect to certain characteristics (e.g., ethnicity, age, diagnoses). A random sample is then taken from each stratum or subgroup. Stratification is done both to improve the accuracy of estimating the total population's characteristics and to provide information about the characteristics of interest within subgroups. However, stratified random sampling requires more information about the population, and can also require a larger total sample size. As a result, it is typically more expensive than simple random sampling. Stratified sampling may also involve "weighting" the sample. In this process, a survey would select a disproportionately larger number of units of analysis from one or more of

the strata to allow the survey to produce information on that particular strata; e.g., individuals dually receiving both Medicare and Medicaid.

Non-probability sampling methods are based on the decisions of those administering the survey, and not on random chance. For example, a State might wish to obtain information about new Medicaid beneficiaries by surveying all new beneficiaries eligible in a particular month. It might wish to obtain information on average stage of pregnancy at time of the establishment of Medicaid eligibility by examining the records of women giving birth at a particular hospital. In such cases, the information obtained by the State will have been biased. Non-random sampling methods such as these also do not lend themselves to statistical analysis. Because of the risk of biased results and the obstacles to statistical analysis, nonprobability sampling is discouraged. However, at times it can be an appropriate and efficient way of collecting needed information.

Step 4: Determine needed sample size.

A sample only collects information from a fraction of the population. Based on data obtained from the sample, estimates are produced about the utilization of health care services, satisfaction with care, quality of care or other issues. However, these estimates are at risk of being *"inaccurate"* to the extent that: (1) they are different from the population's true values because only a portion of the entire population was involved in producing the estimates, and (2) a different sample will give different estimates. Fortunately, the risk of inaccuracy can be reduced by carefully selecting the sample size.

Two factors influence the determination of the appropriate sample size for the survey[2]: (1) the level of certainty desired for the estimate to be produced and 2) the margin of error that is defined as acceptable. Combining these two factors establishes the parameters for the estimates to be produced by the survey (e.g., a survey would target the answers to its questions to be 95% accurate with a 5% margin of error). The greater the certainty and the smaller the margin of error desired, the larger the sample will need to be (and the more expensive the survey will be). In addition, oversampling (sampling for a greater number of entities than are actually needed to produce valid estimates) is sometimes undertaken, to compensate for an anticipated percent of non-respondents to the survey. Because of these and other factors; e.g., whether or not the State intends to compare MCOs/PHPs to one another, the EQRO will need to determine the sample size either as directed by the State, or, if the State allows the sample size to be determined by the EQRO, in consultation with a qualified statistician. The level of certainty and margin of error must be approved by the State.

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[2] A third factor (the true frequency of the occurrence of a characteristic within a population) is also often used to calculate the sample size for some studies. However, since a survey studies multiple questions, and the true prevalence of responses to any of these questions may be variable across questions, and change over time, the most prudent course of action is to assume the need for the maximum sample size by assuming that the presence or absence of the characteristic in question is evenly distributed across the population.

If the CAHPS survey is used, the EQRO can take advantage of the statistical analysis already performed by the CAHPS developers and follow the sampling specifications given in the CAHPS handbook. However, these will differ from the specifications provided by the National Committee for Quality Assurance (NCQA) in the CAHPS 2.0H manual. (CAHPS 2.0H is an adaptation of CAHPS developed by the NCQA, in conjunction with AHCPR, for use with NCQA's Healthplan Employer Data and Information Set - HEDIS). The CAHPS 2.0H questionnaire is identical to the CAHPS questionnaire except for the inclusion of the HEDIS smoking cessation counseling questions as mandatory items. This difference produces different sampling specifications for CAHPS 2.0 and for NCQA CAHPS 2.0 H. NCQA's CAHPS 2.0H requires a larger sample size in order to obtain adequate numbers of respondents who can answer the smoking questions.

Step 5: Specify the sample selection strategy.

Once the sample size is determined, this number of entities must be selected from the sample frame. The strategy for selecting the sample should specify the following:

How the sample will be drawn. Once the type of sampling has been determined, the EQRO, State, or some other entity will implement the sample selection procedures to identify the specific individuals to be surveyed. The State should first approve sample selection parameters and criteria. If the EQRO or some other entity is drawing the sample, the EQRO should review the specifications prior to the draw. The EQRO will review the sample selection procedures even if it does not pull the sample. This should include a review of the statistical program used to generate the sample, a scan of the sample frame files for face validity, and the generation of the statistical program on a sample from the data files.

How will the files/sample be delivered and in what format? Information technology staff may need to be consulted on the mechanism to be used to deliver the sample frame member files for sample selection and contact. Typical modes of delivery include file transfer protocol (FTP), e-mail, or overnight mail on disk or tape. Formats might include CD-ROM, Excel, 4 mm.dat, or reel tape.

Is there a data dictionary for the sample frame or sample file? A data dictionary should be provided to facilitate immediate use of the sample frame or sample file. The data dictionary is a listing and description of all data fields found in an electronic or hardcopy list of sample frame or selected sample members.

ACTIVITY 5: Development of the strategy for maximizing the response rate.

The EQRO must employ a strategy for maximizing the response rate that addresses: 1) how respondents in the sample will be contacted; and, 2) how the response rate will be maximized and calculated.

Step 1: Specify the strategy for contacting individuals to be surveyed.

The strategy for locating and contacting individuals who are to be surveyed (target respondents) should be developed in detail. Surveys can be administered in a face-to-face interview, by telephone interview, or by a mailed questionnaire to be completed by the respondent and mailed back. Because of the importance of achieving a high response rate, considerable research has been conducted on these approaches to survey administration. Recent studies indicate the percentage of nonrespondents is increasing, making survey research more difficult. Although in the past survey researchers believed that face-to-face interviewing produced higher response rates, recent research challenges this view. No single method of survey administration is believed to be superior in all circumstances. Therefore, the type of survey administration chosen (e.g., face-to-face interviewing, telephone or mail) should reflect careful consideration of the response rate as well as cost and time issues. Telephone and mail surveys usually are much less expensive than in-person interviewing. In-person interviews are expensive because of the time and cost required when using experienced, well-qualified interviewers.

Specific data needed by the EQRO to administer the survey should be identified; e.g., an individual's full name, address, phone number, date of birth, primary language and, if relevant, the name of the MCO/PHP the individual is enrolled in, and the length of time of enrollment. It is also important to consider the completeness of the information needed to contact individuals selected for the survey, and to what extent, if any, necessary information such as addresses and telephone numbers can be verified through other means; e.g., the MCO's/PHP's enrollee files. Plans for maximizing the probability that respondents can be located and contacted also should be outlined (e.g., sending names in the sample to a telephone number look-up vendor or using a change-of-address data base vendor.)

The strategy also should address the steps to be undertaken if the actual rates of contacting individuals are lower than expected. These may include mailing a reminder postcard or second survey, or a follow-up phone call to individuals failing to respond to a mail survey; conducting repeat calls in a telephone survey; using special mail delivery services for respondents who have no telephones; or tracking and following up on the number of "bad number" or "undeliverable" cases by using directory assistance, reverse directories, CD-ROM address directories, national change-of-address database vendors, and telephone number look-up vendors. However, the data collection strategy will also need to consider the cost implications of using these techniques. For example, the CAHPS developers have estimated that tracking respondents through directory assistance adds $.75 per case, tracking them through reverse directories adds $3 per case, and

tracking them through the use of telephone number look-up vendors adds $4 to $8 dollars per case.

Step 2: Maximizing and calculating the response rate.

The response rate generally is the number of entities that respond to the survey divided by the number of entities selected to respond to the survey. However, the exact definition is generally more detailed and complex that this; there are a number of different ways to calculate response rates, as well as different strategies for reporting these rates. In addition, the definition of response rate may differ depending on mode of administration. For example, mail surveys typically may exclude non-deliverable addresses from the denominator while telephone interviews may exclude people with non-working telephone numbers and those who no longer reside in the household from the denominator. The EQRO and the State must determine an appropriate response rate methodology. Given the response rate methodology chosen, the State will define acceptable levels of response rates.

The response rate is important because a low rate reduces the ability to make accurate conclusions (statistical inferences) about the population under study. Those individuals who do not respond to the survey may differ systematically from individuals who respond, thereby biasing the results.

Medicaid beneficiaries typically have a low survey response rate. Medicaid populations tend to have lower literacy levels than average, are more likely to speak a primary language other than English, are highly mobile, and have high rates of inaccurate or unavailable telephone numbers and mailing addresses. As a result, surveys of Medicaid beneficiaries tend to require extra effort to maximize response rates. These efforts can include using an expansive contact strategy that emphasizes tracking methods, and a mixed-mode approach to survey administration that typically combines mail and telephone survey procedures. However even with these additional measures, response rates for Medicaid beneficiaries are likely to be lower than for many other populations. The CAHPS developers suggest that the target response rate for administering CAHPS to Medicaid beneficiaries should range from 40% to 60%. They also recommend that survey vendors focus on strategies that promote high response rates and develop a plan of correction actions to take if the response rate falls short of the goal.

No matter what mode of survey administration is selected, research indicates that a number of strategies can be used to achieve better response rates. For example, if mail surveys are used, all of the following strategies should be considered:

- Sending an advance (pre-notification) letter. When developing an in-house letter, the CAHPS developers suggest that a number of points should be stressed in the correspondence:

  Anonymity and confidentiality

How the enrollee was selected for participation
How the results will benefit the respondent
Why the survey should be completed
How to return the survey

- Using follow-up contacts (e.g., reminder postcards, second mailing of the questionnaire, phone contact or special postage mailing of a second questionnaire);
- Emphasizing survey sponsorship (e.g., to indicate State agency sponsorship, use a cover letter on State government letterhead signed by the Agency Director;
- Using personalized correspondence with respondents (e.g., addressing all correspondence to the respondent);
- Providing stamped return envelopes; and
- Using special postage for replacement questionnaire mailings (e.g., overnight mail or certified mail).

Translation of surveys and correspondence into languages other than English also may be important for Medicaid populations. If not addressed, language issues may lead to lower response rates because surveys cannot be completed if they cannot be read. Failure to provide surveys in the respondent's primary language may also result in excluding particularly vulnerable segments of the populations. Unfortunately, the primary language of specific individuals in the survey sample may be difficult to determine. One solution may be to translate a sentence in the introductory letter and provide a phone number for the respondent to call for more information. During the call, the respondent may request a translated survey, complete the survey over the phone, or schedule a more convenient telephone interview time. However, survey translations and beneficiary telephone hot lines can have significant cost implications for the project.

The survey methodology should specify the required response rate established by the State, procedures for handling missing data, and the specific methods for calculating both raw and adjusted response rates. For example:

Raw response rates can be calculated by :

$$\frac{\text{Number of completed surveys}}{\text{Total number of targeted survey respondents}}$$

Adjusted response rates can be calculated by:

$$\frac{\text{Number of completed surveys}}{\quad}$$

Total number of targeted survey respondents minus deceased and ineligible due to hospitalization, cognitive impairment, or other reasons specified in the methodology

ACTIVITY 6: Implementation of the survey.

Based on the information obtained in Activities 1, 2, and 3, and the decisions made in activities 4 and 5, the EQRO should prepare a work plan to govern the implementation of the survey. The work plan should specify routine aspects of project management including key staff and their responsibilities, timelines, and deliverables; the degree to which each phase of the survey process will be documented; and a plan of action for identifying and resolving problems. It should also address final report production including format, content, specification of any needed approval by the State or other entities, and number of reports to be submitted. It should include a description of any reports to be publicly released by the EQRO, if this is part of the EQRO's scope of work.

Key methodological issues to be addressed in the work plan include:

- *procedures to be followed in formatting, reproducing, and distributing the survey questionnaire;*
- *procedures for assuring the confidentiality of the data;*
- *data collection, data entry, and internal quality control methods;* The EQRO should determine with the State procedures for handling responses that fail edit checks, the treatment of missing data, and the handling of procedures for determination of usable/complete surveys.
- *data analysis plan including statistical methodology; and,*
- *production of data files and their format and delivery, if applicable.*

The work plan should be approved by the State prior to implementation.

If it is feasible, the survey vendor should provide the State with a mock-up of survey results prior to administering the survey. This will help assure that the information to be produced by the survey is consistent with the State's planned use of survey results. The implementation of the survey should be in accord with the State-approved work plan.

ACTIVITY 7: Preparation and analysis of data obtained from the survey.

Once the surveys have been completed and returned to the EQRO, preparation of the data for analysis, and data analysis occurs. This includes data quality control procedures (e.g., cleaning and editing), data analysis, and production of data files.

Data quality control. The EQRO should develop, implement, and document quality control procedures for all survey administration activities. In particular, quality control should address: recording receipt of mail surveys; telephone administration of surveys; handling of respondent information and assistance telephone calls; coding, editing, and keying in or optical scanning of survey data; data tabulation and analysis; and preparation of survey reports.

Data analysis. Each MCO/PHP should be treated as the basic unit of analysis and reporting. The analysis should include simple statistical procedures such as calculation of measures of central tendency and frequency distributions for specific survey questions. In addition, differences in survey results among MCOs/PHPs may be examined using standard statistical tests. For example, the F-test may be used to determine if the average scores of any MCO/PHP differ significantly from that of other MCOs/PHPs. The F-test tests the hypothesis that all MCO/PHP means (averages) are equal by comparing the relative size of two variances. The F-test will be significant if at least one MCO or PHP mean is statistically different from any other MCO or PHP mean. If the F-test indicates that there are significant differences, a series of t-tests may be conducted to identify which MCO/PHP is different from other MCO/PHPs. The t-test tests the hypothesis that two specific MCO/PHP means are significantly different from each other. A significant t-test indicates that the two MCO/PHPs represent two populations with different means.

In addition, an EQRO may want to consider multivariate regression and/or analysis of covariance techniques to further identify meaningful differences between MCOs/PHPs while controlling for respondent characteristics. For example, a driver analysis and a quadrant analysis may be used to gain more insight into the current survey measures and possible approaches to future improvement. Driver analysis refers to statistical techniques that may be used to identify the important factors or "drivers" that significantly affect some outcome measure. In this context, the driver analysis will identify the most important factors (drivers) that significantly affect overall scores. Individual questions can be analyzed to determine their effect on overall scores. These identified drivers, along with their current measures, will then be subjected to a quadrant analysis which compares the importance of the drivers against the current survey measures on these drivers. For example, if access to specialists has been identified as a driver of patient satisfaction, then depending on the importance of access as a driver and the MCO current performance on access, there could be four different combinations or quadrants: (1) high importance and high performance; (2) high importance and low performance; (3) low importance and low performance; and (4) low importance and high performance. High importance means that health care access has an important effect on satisfaction, and high performance means that health care access has been well addressed. Therefore, quadrant (1) identifies strength; i.e.,

satisfactory performance on a crucial driver. Similarly, quadrant (2) identifies areas needing improvement; quadrant (3) and (4) are areas of low leverage and insignificance. The most important insight that can be gained through quadrant analysis is the identification of improvement opportunities. MCOs/PHPs can then make strategic decisions about where to devote their efforts and resources in order to improve MCO/PHP scores.

Consistent with the purposes and objectives of the survey, populations within each MCO/PHP could also be analyzed and reported separately. For instance, the State may be interested in whether any particular variable differs significantly across geographic locations, demographic groups, socio-economic groups, or other identifiable subgroups (e.g., frequent and infrequent users of health care services).

Survey results may be adjusted for external factors that influence results. For example, studies suggest that age, education, and self-reported health status, among others, have a significant effect on patient satisfaction.

Regardless of the statistical analyses performed, the display of survey findings is important. Statistical graphs should accompany narrative text to aid comparison and interpretation. For example, bar graphs and comparison charts, such as those recommended by CAHPS, convey important information about the performance of each MCO/PHP and indicate meaningful differences among MCOs/PHPs.

ACTIVITY 8: Documentation of the survey process and results.

The EQRO should prepare and submit reports to the State that document the survey process and results, including:

1. survey purpose and objectives;
2. technical methods of survey implementation and analysis (Activities 2 - 7);
3. data obtained;
4. conclusions drawn from the data;
5. a detailed assessment of each MCO/PHP's strengths and weaknesses with respect to (as appropriate) access, quality, and/or timeliness of health care furnished to Medicaid enrollees;
6. as the State determines methodologically appropriate, comparative information about all MCOs/PHPs.

The final report also should include a detailed description of survey methodology problems, lessons learned, and recommendations for improving future efforts. If the scope of work with the State requires the EQRO to produce a report on survey results for public reporting, the content and format of this report should conform to the mock-up specifications previously approved by the State. Recently, many States have shown increasing interest in using survey data for public

reporting. However, fitting survey information into the design and distribution of other beneficiary materials and agreeing on the report's length, design, and graphics can prove difficult. Therefore, it is important for the EQRO and the State to agree on how to present the results before the production of the reports.

APPENDIX A

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APPENDIX B

SURVEY PLANNING AND IMPLEMENTATION -- DOCUMENTATION

SURVEY ELEMENT	DOCUMENTATION
Activity 1: Survey Purposes(s) and Objective(s)	
• There is a written statement of survey purpose(s) that addresses access, timeliness, and/or quality of care.	
• Unit(s) of analysis are clearly stated and include individual MCOs/PHPs.	
• Study objectives are clear, measurable, and in writing.	
Activity 2: Survey Audience(s)	

• Audiences for survey findings are identified. - If consumers are an intended audience, survey strategy will allow MCO-to-MCO comparisons. - If MCOs/PHPs are an intended audience, the State has a policy regarding MCO/PHP access to individual enrollee's survey responses. - If information on the State's program as a whole is desired, the design of the survey will produce information on the State's managed care initiative as a whole.	
Activity 3: Survey Instrument	
• If using an existing survey, there is evidence of its reliability.	
• If using an existing survey, there is evidence of its validity.	
• If using a newly developed survey, there is evidence that an individual with experience in survey design and methodology was involved in the development of the survey.	

• If using a newly developed survey, there is evidence of reliability testing.	
• If using a newly developed survey, there is evidence of validity testing.	
• If using an adapted survey, an individual(s) with expertise in survey design (preferably expertise in the original survey instrument) participated in the adaptation and testing of the instrument.	
• If using an adapted survey, there is evidence of reliability testing.	
• If using an adapted survey, there is evidence of validity.	
Activity 4: Sampling Plan	
• Population to be studied is clearly identified.	
• Sample frame clearly defined.	
• Sampling strategy (simple random, stratified random, non-probability) is appropriate to study question.	

• If random sampling is used, sampling process is valid.	
• If stratified random sampling is used, sampling process is valid.	
• If non-probability sampling is used, there is clear and strong evidence why random sampling is not feasible.	
• Sample size is determined using reasonable statistical parameters and is appropriate to survey purpose and objectives.	
• Sample selection processes are in place, including: specifications for drawing the sample and assuring validity of sample frame. A test of the sampling specifications is to be performed on a portion of the sample frame file.	

• Methods for delivering sample files are in place.	
• Data dictionary is provided for the sample frame file.	
Activity 5: Response rate	
• Strategy for locating and contacting target respondents is in place. Specify if mail, phone, face-to-face, or combination strategy is used.	
• The required response rate is specified by the State.	

• Strategies for maximizing response rates are in place.	
• Procedures for handling missing data and for calculating raw and adjusted response rates are in place.	
Activity 6: Implementation of the survey	
• There are procedures for formatting, reproducing, and distributing the survey questionnaire.	
• There are procedures for assuring data confidentiality.	

• Data collection, data entry and internal quality control methods are in place.	
• The data analysis plan is in place.	
• Data file production and delivery mechanisms are in place.	

Activity 7: Data Preparation and Analysis	
• Quality control procedures are in place, including: administration of surveys; receipt of survey data; information and assistance; coding, editing and entering data; procedures for missing data and data that fails edits.	
• Data preparation and analysis procedures are in place.	

• Final report includes narrative text accompanied by graphical display of data.	
Activity 8: Survey Documentation - Final report includes:	
• Survey purpose and objectives	
• Technical methods of survey implementation and analysis	
• Description of data obtained	

• Conclusions drawn from data	
• Detailed assessment of each MCO's strengths and weaknesses with respect to (as appropriate) access, quality, and/or timeliness of health care furnished to Medicaid enrollees.	
• Comparative information about all MCOs/PHPs (as directed by the State).	
• Problems with survey methodology.	
• Lessons learned.	
• Recommendations for future survey efforts.	

VALIDATING SURVEYS

I. PURPOSE OF THE PROTOCOL

Surveys of Medicaid beneficiaries or other entities are becoming an increasingly common method of health care quality measurement. Surveys can provide information that is not generally available through clinical or administrative records. Surveys also can capture beneficiaries', families', caregivers', providers', or other relevant parties' perceptions of access to care and quality of health services. However, in order for a survey to produce valid and reliable information (upon which to make valid and reliable judgements about health care access, quality, and/or timeliness), the design and administration of a survey must be carried out in accord with certain fundamental principles of survey design and administration.

If a State desires its External Quality Review Organization (EQRO) to incorporate the findings of a survey (one that is not administered by the EQRO at the direction of the state Medicaid agency) into the required EQRO activity of "analysis and evaluation . . of aggregated information on timeliness, access, and quality of the health care services furnished to Medicaid recipients by each MCO . . ,"[1] the EQRO must determine the extent to which the survey has produced *valid and reliable* information. This determination is necessary in order for the EQRO to determine how much significance to place on a particular survey's findings when the EQRO is aggregating and analyzing information from multiple sources about access, quality and / or timeliness of care. This protocol describes the steps that need to be undertaken by an EQRO to evaluate the methodologic soundness of a particular survey, if the survey is to be included as a component of the external, independent quality review required under federal law for Medicaid managed care organizations (MCOs) and prepaid health plans (PHPs). In HCFA's proposed rule on external quality review of Medicaid MCOs and PHPs, administration or validation of provider surveys of quality of care is identified as an optional EQRO activity, to be used at the discretion of the State.[2]

II. ORIGIN OF THE PROTOCOL

This protocol is a variation of the protocol on "Administering Surveys" and is based on the same generally accepted principles of survey design and administration that guided that protocol. This protocol was also guided by the same academic and research publications. These are cited in Appendix A.

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[1]Proposed rule on Medicaid Program; External Quality Review of Medicaid Managed Care Organizations. Federal Register Vol.64, No 230 December 1, 1999.

[2]Ibid.

III. PROTOCOL OVERVIEW

This protocol applies to all types of surveys; for example, beneficiary surveys and provider surveys. It does not assume the use of one particular survey instrument, sampling methodology or approach to analyzing or reporting study results because differences in the purposes of surveys preclude any one questionnaire, sampling methodology and analysis and reporting strategy from meeting all needs. In a number of instances, however, the protocol addresses the Consumer Assessment of Health Plans Study (CAHPS) surveys and reporting formats, which were developed by the Agency for Healthcare Research and Quality (AHRQ) (formerly the Agency for Health Care Policy and Research - AHCPR) through cooperative agreements with the RAND Corporation, Harvard University, and the Research Triangle Institute. CAHPS surveys are frequently used by States to evaluate Medicaid beneficiaries' experiences with managed care.

In this protocol, survey validation is limited to review of survey procedures. It does not include collecting survey data anew from the initial survey respondents to verify their responses. Time, resource requirements, and the potential demands on survey respondents typically make this activity infeasible.

The protocol specifies seven activities that must be undertaken to assess the methodologic soundness of a given survey:

1. Review survey purpose(s) and objective(s)
2. Review intended survey audience(s)
3. Assess the reliability and validity of the survey instrument
4. Assess the sampling plan
5. Assess the adequacy of the response rate
6. Review survey data analysis and findings/conclusions
7. Document evaluation of survey

IV. PROTOCOL ACTIVITIES

The eight activities comprising this protocol are discussed below. EQROs should use a work sheet such as that found in Appendix B to assist in performing and documenting the validation process for the survey under review.

ACTIVITY 1: Review survey purposes(s) and objective(s).

In order to have a sufficient understanding of the design, administration, and analysis of the survey, the EQRO should communicate with the entity(ies) that administered the survey to review and understand key decisions about the survey's purpose(s) and objective(s). These decisions will have shaped the survey methodology, administration, and analytical approach. The EQRO should be able to answer the following question: "What did the survey sponsor want to

learn by administering the survey?" Although a survey sponsor may have multiple purposes for a given survey, for purposes of this protocol, one of the stated purposes of the survey must have been to assess -- either alone or in combination -- the access, quality, and/or timeliness of care received by Medicaid beneficiaries enrolled in individual MCOs/PHPs.

The purpose(s) and objective(s) of the survey will also have determined the survey's *"unit of analysis."* The unit of analysis refers to the type of entity about which the survey sponsor wishes to obtain information. The unit of analysis may be, for example: individual MCOs/PHPs, the State's managed care initiative as a whole, or a particular grouping of providers. Thus, the unit of analysis also greatly influences the design, administration, and analysis of the survey. Although the survey under review may have addressed multiple units of analysis, at least one of the units of analysis must have been individual MCOs/PHPs participating in the survey; i.e., the survey must have been designed to provide representative and generalizable information about individual MCOs/PHPs.

Following from the survey's purposes(s) and unit(s) of analysis, more detailed objectives should have been explicitly stated in writing. Ideally, objectives should be concise, explicit and measurable. For example, if the purpose of the study was to discover how satisfied Medicaid managed care enrollees were with their health care, more specific objectives might include:

- Determining if enrollees of individual MCOs/PHPs are satisfied with their access to speciality care.
- Determining if enrollees of individual MCOs/PHPs are involved in planning for their own treatment.
- Determining if enrollees of individual MCOs/PHPs are satisfied with the quality of their interactions with their primary care provider.

The survey sponsor should provide documentation of the survey purpose(s), explicitly-stated objectives, and a description of the unit of analysis.

ACTIVITY 2: Review intended audience(s) for survey findings.

The EQRO also should have an understanding of the intended audiences for the survey results. Typically, the audiences may include:

- State Medicaid agencies who plan to use the survey results as part of their contracting strategy for improving delivery of health services;

- Medicaid beneficiaries and advocates who are choosing between FFS and MCOs/PHPs or among Medicaid MCOs/PHPs. Survey information increasingly is viewed as one method for allowing the consumer to make an informed choice. This type of survey effort would typically enable comparisons of MCOs/PHPs;

- MCO/PHP managers and providers who can use the survey results to identify areas of superior health service delivery performance as well as areas that need improvement.

- State policy makers who can use survey findings to monitor how Medicaid beneficiaries perceive the care they receive.

The intended audience for a survey can influence the selection of the survey instrument, the wording of individual survey questions, the type of data analysis performed, and the selection and presentation of particular survey findings. It also can inadvertently introduce bias in the survey process. The EQRO should understand the intended use of the survey, as one part of its overall evaluation of the reliability and validity of the survey.

ACTIVITY 3: Assess the reliability and validity of the survey instrument.

A survey may have been administered using: 1) a pre-existing instrument that was developed prior to the survey for use by others; 2) a new instrument developed specifically for the particular survey under review; or 3) an adaptation of a pre-existing instrument. Regardless of which of these three options a survey sponsor employed, the EQRO will need to determine the validity and reliability of the survey instrument as a critical step in deciding how much confidence to place in the survey's findings.

Reliability refers to: 1) the internal consistency of a survey instrument; and 2) the reproducibility of survey results when the survey is administered under different conditions; e.g., by different people, or at different times. Internal consistency requires that positive statistical correlations exist between questions within a survey. In other words, a respondent's answers to particular survey questions should not contradict the respondent's answer to other survey questions. Answers should be consistent across related questions. Reproducibility means that a tool yields the same results in repeated trials. For example, a grocery store scale should show the same weight each time the same bag of produce is measured. If it shows a different weight, it is unreliable. Similarly, a survey instrument's questions should not be answered differently depending upon who is administering the survey or in what location or manner the survey is administered. Survey questions also should be clear so that individuals responding to the same question in the survey will not interpret the same question differently.

Validity refers to the degree to which a tool measures what it is intended to measure. Different types of validity measurements include: face validity, content validity, construct validity, and criterion-related validity. Face validity is also known as logical validity and ensures that the tool generates common agreement and/or mental images associated with a concept about which the survey is asking. This type of validity does not involve statistical analysis, but is an opportunity to determine if a concept is well assessed by a question or questions in a survey. This can be accomplished through a review that may include one or more focus groups whose primary

purpose is to agree/disagree on whether the survey, *on its face,* is capturing the concept to be addressed by the survey. Content validity builds on face validity by asking whether the survey fully captures and represents the concept under study. This type of validity is typically established by a review for relevance by individuals with expertise in the subject matter addressed in the survey. Content validity also is not established using statistical procedures. Rather, it is established by agreement from experts in the topic under study.

Construct and criterion validity are more sophisticated measures of validity and require more time and resources to assess. Construct validity assesses how well the test measures the underlying issue (e.g., access to care, satisfaction with care, satisfaction with providers) it is supposed to measure. Criterion validity measures how well the performance on a test reflects the performance on what the test is supposed to measure. There are two types of criterion validity: concurrent and predictive. Concurrent validity uses a correlation coefficient to compare the survey to a "gold standard" survey for measuring the same variable. Predictive validity measures the survey's ability to "predict" future outcomes and also uses a correlation coefficient for comparison. While no instrument is ever determined to be "perfect' with respect to reliability and validity, the greater amount of reliability and validity testing, and the greater the positive findings with respect to reliability and validity that are associated with a given survey instrument, the greater confidence an EQRO can have in a survey's findings.

The CAHPS survey instruments and reporting formats have undergone rigorous testing for reliability and validity, including focus group interviewing, cognitive interviewing, and field-testing. If a survey sponsor chose to use another instrument, develop one of its own, or modify an existing instrument, at a minimum, it should promote reliability and validity by first establishing face and content validity, then pretesting the tool for reliability. Face and content validity can be established by convening one or more focus groups that include beneficiaries and individuals with subject matter expertise. Reliability can be assessed using the test-retest method in which the survey is administered to the same group at two different times. A correlation coefficient is calculated and indicates the reproducibility of results. Correlation coefficients with *r* values at or above 0.70 indicate good reliability.

Existing survey instruments. Because of the resources required to develop and test new survey tools, many survey sponsors will choose to use an existing survey instrument - especially one that has undergone strong reliability and validity testing such as CAHPS. CAHPS testing included cognitive testing during the development and evaluation phases, calculation of reliability estimates in a sample of Medicaid enrollees and private health insurance purchasers, and convening of focus groups to test relevance of survey concepts and items. In addition, CAHPS surveys include a free, easy-to-use CAHPS Survey and Reporting Kit. The kit contains a set of mail and telephone survey questionnaires including Spanish language versions, sample reporting formats, and a handbook with step-by-step instructions for sampling, administration, analysis, and reporting. The handbook's instructions are easy to understand and allow flexibility within the sample and analysis design. The handbook also includes a comprehensive, statistical

software package as well as the telephone number and e-mail address of the technical assistance hotline.

There are a wide variety of other existing questionnaires that can be selected as the survey instrument. While some have undergone extensive reliability and validity testing, others have been developed with little or no testing for reliability and validity. Unless there is evidence of an instrument's reliability and validity testing and results, an instrument's reliability and validity should always be suspect. Even pre-existing, validated survey instruments may not have been validated in a Medicaid population. Instruments not validated in a Medicaid population may not yield valid or reliable results for this population.

Another advantage of existing instruments is that use of the same questionnaire, methods, and analysis for surveys of MCOs/PHPs, population groups, and States, can permit a particular survey's findings to be compared against those of other studies. For example, standardization of the survey instruments, methodology, and report formats in CAHPS provides reliable and valid measures that can be compared across MCOs/PHPs, across MCOs/PHPs and fee-for-service (FFS), as well as across a wide range of respondents and States.

When an existing survey instrument was used, the EQRO should document the extent of reliability and validity testing of the survey instrument.

New survey instruments. In some cases, a survey sponsor may have chosen to create a new survey that was developed specifically for a particular survey. Usually, new survey instruments are developed and used when the purposes and objectives of the study require answers to questions that are not addressed by existing instruments. Such survey instruments can capture information that is of great interest and relevance to the questions under study. However, assuring the reliability and validity of new surveys is costly and takes time. Without such reliability and validity testing, surveys can have serious methodological shortcomings and be vulnerable to criticism. A 1997 report by the Department of Health and Human Services (DHHS) Inspector General, "Medicaid Managed Care: The Use of Surveys as a Beneficiary Protection Tool" found that some State-specific surveys were designed to meet too many objectives and provided little useful data. When external quality review is to incorporate the findings of a new survey instrument and methodology, the EQRO should document the extent of reliability and validity testing of the survey instrument and methodology. The results of the reliability and validity testing are an important consideration in determining the extent to which the EQRO incorporates the survey findings into its analysis and evaluation of information on the access, quality and timeliness of health care services furnished to Medicaid beneficiaries enrolled in MCOs/PHPs.

Adaptations of existing surveys. Survey sponsors also may have decided to adapt an existing questionnaire by adding or deleting items, modifying questions, or using only certain groups of questions to respond to a specific issue under study. This approach provides flexibility to add or change the data to be collected, while providing many of the advantages of using a pre-existing

questionnaire. However, this approach also can raise questions about the validity and reliability of the new or modified questions, as well as the survey overall. Validated instruments are tested "as a whole," and any modifications can change the focus and purpose of the tool, and thereby the validity and reliability of the tool as a whole and/or its individual questions. Adapting an existing survey is easier if CAHPS is used, as the CAHPS survey instruments have been specifically designed with opportunities to customize the questionnaire by adding questions from a list of supplemental optional items, as well as State-designed questions. Most pre-existing questionnaires are not designed to accommodate such modifications and require additional testing. Modifications and additional testing are time intensive and will likely result in increased costs.

The EQRO should review the evidence about the reliability and validity testing of all survey instruments, regardless of whether they are existing, new, or adapted instruments. Each survey's reliability and validity testing should be an important element in determining to what extent the EQRO relies upon the survey findings to inform its analysis and evaluation of access, quality and timeliness of health care.

ACTIVITY 4: Review the sampling plan.

When a survey sponsor decides to collect information directly from beneficiaries, providers, or other unit of analysis, it must decide how may *"units"* will need to be surveyed. A survey sponsor could decide to take a *"census;"* i.e., ask every individual entity which the survey is designed to represent, to answer the survey questions. For example, a survey sponsor could decide to survey all Medicaid beneficiaries or all Medicaid participating providers. However, because the cost of contacting all these entities is expensive, surveys typically are administered to only a portion (a "sample") of the target population. Whenever a sample, as opposed to a census, is used, it is very important to select the sample members in a way that represents as closely as possible the population about whom information is desired - both those included in the sample and those not selected to respond to the survey. The EQRO should review documentation related to the sampling plan, particularly (1) the definition of the study population; (2) specifications for the sample frame; (3) the type of sampling used; (4) the adequacy of the sample size; and (5) sample selection procedures. The level of detail involved in this review will require that the EQRO use professional statisticians. The EQRO will need to make a judgement about whether the sample selected was sufficiently representative of the study population for the EQRO to have confidence in the survey findings.

Step 1: Identify the study population.

The EQRO should first document what population the survey was designed to study; e.g., all Medicaid beneficiaries enrolled in managed care, or all children with special health care needs. The *"population"* represents all units of analysis (sometimes referred to as *"the universe"*) about which the survey questions are raised. A good sample is a small version of the population to be

studied and is representative of the population in terms of certain pre-identified characteristics (e.g., race, age, MCO/PHP affiliation.)

Step 2: Review the sample frame.

Once the target population for the survey is identified, the EQRO must also identify and understand the construction of the survey's *"sample frame."* The "sample frame" is a listing of all members of the study population *who are eligible* for the study. From this listing, the sample is selected. Questions used to define individuals eligible for the survey (the sample frame) might include, for example:

Was a minimum period of enrollment in a MCO/PHP necessary for individuals who were surveyed? Did beneficiaries have to be continuously enrolled in a specific MCO/PHP for a specified period of time to be included in the survey? Frequently, a minimum period of continuous enrollment, such as six months, is required to increase the likelihood that enrollees have had contact with their specific MCO/PHP.

Were any MCO enrollees excluded? Why? For example, if a study aimed to address children with special health care needs, was it limited only to children receiving SSI or Title V, or did it address all children that a MCO/PHP might identify as having special health care needs, or all children whose family might identify them as having a special health care needs?

Was only one member per household allowed to be surveyed?

Were children allowed to be surveyed?

When was open enrollment and how did it impact survey administration?

Step 3: Review the type of sampling used.

There are two basic types of statistical sampling: probability sampling and nonprobability sampling. Probability sampling leaves selection of the units to be included in the survey up to chance. It is designed to prevent any biases in the sample selected by ensuring that each segment of the study population is represented in the sample to the extent it composes part of the population under study. Simple random sampling is the most common form of probability sampling used in survey research. Population members are generally assigned a number, and random numbers generated by a computer or table of random numbers are used to select members from the population. This sampling approach ensures that all members of the target population have an equal chance to be selected. The sample is thus assumed to be fully representative of the population.

Stratified random sampling also may be used. This technique calls for dividing the population (on the basis of prior knowledge about the population) into specific, pre-identified strata or subgroups that are homogeneous within themselves with respect to certain characteristics (e.g., ethnicity, age, diagnoses). A random sample is then taken from each stratum or subgroup. Stratification is done both to improve the accuracy of estimating the total population's characteristics and to provide information about the characteristics of interest within subgroups. However, stratified random sampling requires more information about the population, and can also require a larger total sample size. As a result, it is typically more expensive than simple random sampling. Stratified sampling may also involve "weighting" the sample. In this process, a survey would select a disproportionately larger number of units of analysis from one or more of the strata to allow the survey to produce information on that particular strata; e.g., individuals dually receiving both Medicare and Medicaid.

Non-probability sampling methods are based on the decisions of those administering the survey, and not on random chance. For example, a State survey sponsor might wish to obtain information about new Medicaid beneficiaries by surveying all new beneficiaries eligible in a particular month. It might wish to obtain information on average stage of pregnancy at time of the establishment of Medicaid eligibility by examining the records of women giving birth at a particular hospital. In such cases, the information obtained by the State will have been biased. Non-random sampling methods such as these also do not lend themselves to statistical analysis. Because of the risk of biased results and the obstacles to statistical analysis, nonprobability sampling is discouraged. However, at times it can be an appropriate and efficient way of collecting needed information.

Step 4: Review adequacy of sample size.

A sample only collects information from a fraction of the population. Based on data obtained from the sample, estimates are produced about the utilization of health care services, satisfaction with care, quality of care or other issues. However, these estimates are at risk of being *"inaccurate"* to the extent that: (1) they are different from the population's true values because only a portion of the entire population was involved in producing the estimates, and (2) a different sample will give different estimates. Fortunately, the risk of inaccuracy can be reduced by carefully selecting the sample size.

Two factors influence the determination of the appropriate sample size for a survey[3]: (1) the level of certainty desired for the estimate to be produced and 2) the margin of error that is defined as acceptable. Combining these two factors establishes the parameters for the estimates to be produced by the survey (e.g., a survey would target the answers to its questions to be 95%

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[3] A third factor (the true frequency of the occurrence of a characteristic within a population) is also often used to calculate the sample size for some studies. However, since a survey studies multiple questions, and the true prevalence of responses to any of these questions may be variable across questions, and change over time, the most prudent course of action is to assume the need for the maximum sample size by assuming that the presence or absence of the characteristic in question is evenly distributed across the population.

accurate with a 5% margin of error). The greater the certainty and the smaller the margin of error desired, the larger the sample will need to be (and the more expensive the survey will be). In addition, oversampling (sampling for a greater number of entities than are actually needed to produce valid estimates) is sometimes undertaken, to compensate for an anticipated percent of non-respondents to the survey. Because of these and other factors (e.g., whether the State intended the survey to provide estimates of individual MCO/PHP performance or whether the survey findings were intended to compare MCP/PHP performance), in order to review the adequacy of the sample size, the EQRO needs to evaluate: (1) the level of certainty desired about the estimate to be produced and 2) the margin of error that was defined as acceptable. The EQRO will need a qualified statistician to review the adequacy of the sample size that was used for the survey.

If the CAHPS survey is used, the EQRO can take advantage of the statistical analysis already performed by the CAHPS' developers. However, these will differ from the specifications provided by the National Committee for Quality Assurance (NCQA) in the CAHPS 2.0H manual. CAHPS 2.0H is an adaptation of CAHPS developed by the NCQA, in conjunction with AHCPR, for use with NCQA's Healthplan Employer Data and Information Set - HEDIS. The CAHPS 2.0H questionnaire is identical to the CAHPS questionnaire except for the inclusion of the HEDIS smoking cessation counseling questions. This difference produces different sampling specifications for CAHPS 2.0 and for NCQA's CAHPS 2.0H version. NCQA's CAHPS 2.0H requires a larger sample size in order to obtain adequate numbers of respondents who can answer the smoking questions.

Step 5: Review the sample selection procedures.

The EQRO will review the sample selection procedures. This includes reviewing the statistical program or other process used to generate the sample. The EQRO will need to determine the extent to which the selection of sample members from the sample frame was conducted in a manner that protects against bias.

ACTIVITY 5: Review the adequacy of the response rate.

The EQRO must assess the adequacy of the response rate. This includes a review of : 1) how respondents in the sample were contacted; and, 2) what the response rate was and how it was calculated.

Step 1: Review the strategy for contacting individuals participating in the survey.

Surveys can be administered in a face-to-face interview, by telephone interview, by a mailed questionnaire to be completed by the respondent and mailed back, or by a combination of these approaches. Because of the importance of achieving a high response rate, considerable research has been conducted on these approaches to survey administration. Recent studies indicate that the

percentage of nonrespondents is increasing, making survey research more difficult. Although in the past survey researchers believed that face-to-face interviewing produced higher response rates, recent research challenges this view. No single method of survey administration is believed to be superior in all circumstances.

Step 2: Review the response rate.

The response rate generally is the number of entities that respond to the survey divided by the number of entities selected to respond to the survey. However, the exact definition is generally more detailed and complex that this; there are a number of different ways to calculate response rates, as well as different strategies for reporting these rates. In addition, the definition of response rate may differ depending on mode of administration. For example, mail surveys typically may exclude non-deliverable addresses from the denominator, while telephone interviews may exclude from the denominator people with non-working telephone numbers and those who no longer reside in the household. The response rate is important because a low rate reduces the ability to make accurate conclusions (statistical inferences) about the population under study. Those individuals who do not respond to the survey may differ systematically from individuals who respond, thereby biasing the results.

Medicaid beneficiaries typically have a low survey response rate. Medicaid populations tend to have lower literacy levels than average, are more likely to speak primary languages other than English, are highly mobile, and have high rates of inaccurate or unavailable telephone numbers and mailing addresses. As a result, surveys of Medicaid beneficiaries tend to require extra effort to maximize response rates. These efforts can include using an expansive contact strategy that emphasizes tracking methods, and a mixed-mode approach to survey administration that typically combines mail and telephone survey procedures. However, even with these additional measures, response rates for Medicaid beneficiaries are likely to be lower than for many other populations. The CAHPS developers suggest that the target response rate for administering CAHPS to Medicaid beneficiaries should range from 40% to 60%. They also recommend that survey vendors focus on strategies that promote high response rates and develop a plan of correction actions to take if the response rate falls short of the goal.

The EQRO should evaluate the response rate and discuss with survey sponsors the potential reasons for non-response, and the extent to which nonresponse may have introduced bias in the survey findings. The EQRO also should examine the specific methods for calculating both raw and adjusted response rates. For example:

Raw response rates can be calculated by :

$$\frac{\text{Number of completed surveys}}{\text{Total number of targeted survey respondents}}$$

Adjusted response rates can be calculated by:

$$\frac{\text{Number of completed surveys}}{\text{Total number of targeted survey respondents minus deceased and ineligible due to hospitalization, cognitive impairment, or other reasons specified in the methodology)}}$$

The EQRO will need to assess the response rate, whether the survey employed a reasonable method for calculating the response rate, potential sources of non-response and bias, and the extent to which the response rate weakens or strengthens the generalizeability of the survey findings.

ACTIVITY 6: Review survey data analysis and findings/conclusions.

The EQRO should review the approach to analyzing the survey data and the findings/conclusions of the survey.

Data quality control. The EQRO should review how the survey sponsor handled responses that failed edit checks, the treatment of missing data, and procedures for determination of usable/complete surveys.

Data analysis. The EQRO should review how the survey sponsor analyzed the survey data. Each MCO/PHP should have been treated as the basic unit of analysis and reporting. The analysis should include simple statistical procedures such as measures of central tendency and frequency distributions for specific survey questions. In addition, the findings may include a statistical analysis of the extent to which there are differences in responses to questions according to survey subgroups (e.g., MCOs/PHPs). Any differences should be examined using standard statistical tests such as the F-test and the T-test. The F-test may be used to determine if the average scores of any entity (e.g., MCO or PHP) differ significantly from that of other MCOs/PHPs. The F-test tests the hypothesis that all MCO/PHP means (averages) are equal by comparing the relative size of two variances. The F-test will be significant if at least one MCO/PHP mean is statistically different from any other MCO/PHP mean. If the F-test indicates that there are significant differences, a series of t-tests may be conducted to identify which MCO/PHP is different from other MCO/PHPs. The t-test tests the hypothesis that two specific MCO/PHP means are significantly different from each other. A significant t-test indicates that the two MCOs/PHPs represent two populations with different means.

In addition, multivariate regression and/or analysis of covariance might have been used to further identify meaningful differences between MCOs/PHPs while controlling for respondent characteristics. For example, a driver analysis and a quadrant analysis may have been used to gain more insight into the survey measures and possible approaches to future improvement. Driver analysis refers to statistical techniques that may be used to identify the important factors

or "drivers" that significantly affect some outcome measure. In this context, the driver analysis will identify the most important factors (drivers) that significantly affect overall scores. Individual questions can be analyzed to determine their effect on overall scores. These identified drivers, along with their current measures will then be subjected to a quadrant analysis which compares the importance of the drivers against the current survey measures on these drivers. For example, if access to specialists has been identified as a driver of patient satisfaction, then depending on the importance of access as a driver and the current performance on access, there could be four different combinations or quadrants: (1) high importance and high performance, (2) high importance and low performance, (3) low importance and low performance, and (4) low importance and high performance. High importance means that access to specialists has an important effect on satisfaction, and high performance means that access has been appropriately provided. Therefore, quadrant (1) identifies strength, i.e. satisfactory performance on a crucial driver. Similarly, quadrant (2) identifies areas needing improvement; quadrant (3) and (4) are areas of low leverage and insignificance. The most important insight that can be gained through quadrant analysis is the identification of improvement opportunities. MCO/PHPs can then make strategic decisions about where to devote their efforts and resources in order to improve MCO/PHP scores.

Consistent with the purposes and objectives of the survey, populations within each MCO/PHP could also be analyzed and reported separately. For instance, the State may be interested in whether any particular finding differs significantly across geographic locations, demographic groups, socio-economic groups, or other identifiable subgroups (e.g., frequent and infrequent users of health care services). Survey results also may have been adjusted for external factors that influence results; e.g., studies suggest that age, education, and self-reported health status, among others, have significant effect on patient satisfaction.

Regardless of the statistical analyses performed, the data analysis should yield clear information about the performance of each MCO/PHP and, as appropriate, differences among MCOs/PHPs.

ACTIVITY 7: Document evaluation of survey

Using the information obtained from activities 1 - 6, including the review of:

- survey purpose, objectives and intended audience(s);
- reliability and validity of the survey instrument;
- adequacy of the sampling strategy and response rate; and
- data obtained and its analysis,

the EQRO should make a determination of the generalizeability of the survey findings, and the extent to which the survey findings can be relied upon to make inferences about the access, quality, and timeliness of health care delivered to Medicaid beneficiaries enrolled in MCOs/PHPs. The EQRO should document these conclusions and provide written findings on:

1) the survey's technical strengths and weaknesses; 2) the limitations /generalizeability of survey findings; 3) conclusions drawn from the survey data; 4) a detailed assessment of each MCO/PHP's strengths and weaknesses with respect to (as appropriate) access, quality, and/or timeliness of health care furnished to Medicaid enrollees; and 5) as the State determines methodologically appropriate, comparative information about all MCOs/PHPs.

APPENDIX A

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APPENDIX B

SURVEY VALIDATION WORKSHEET

SURVEY ELEMENT	DOCUMENTATION
Activity 1: Survey Purposes(s) and Objective(s)	
• There is a written statement of survey purpose(s) that addresses access, timeliness, and/or quality of care.	
• Unit(s) of analysis are clearly stated and include individual MCOs/PHPs.	
• Study objectives are clear, measurable, and in writing.	
Activity 2: Survey Audience(s)	
• Audiences for survey findings are identified.	

Activity 3: Survey Instrument	
• If an existing survey instrument was used, there is evidence of its reliability.	
• If an existing survey instrument was used, there is evidence of its validity.	
• If a newly developed survey was used, there is evidence of reliability testing.	
• If a newly developed survey was used, there is evidence of validity testing.	
• If using an adapted survey: there is evidence of reliability testing.	
• If using an adapted survey, there is evidence of validity.	

Activity 4: Sampling Plan	
• Population to be studied was clearly identified.	
• Sample frame was clearly defined and appropriate.	
• Sampling strategy (simple random, stratified random, non-probability) was appropriate to study question.	
• If random sampling is used, sampling process was valid.	
• If stratified random sampling is used, sampling process was valid.	
• If non-probability sampling is used, there is clear and strong evidence why random sampling was not feasible.	
• Sample size was determined using reasonable statistical parameters, as appropriate to survey purpose and objectives.	

• Sample selection processes were sound.	
Activity 5: Response rate	
• Specify if mail, phone, face-to-face, or combination strategy was used to contact targeted survey respondents.	
• Specifications for calculating raw and adjusted response rates are clear and appropriate.	
• The response rate, potential sources of non-response and bias, and implications of the response rate for the generalizeability of survey findings are assessed.	

Activity 6: Review of Data Preparation and Analysis	
• Quality control procedures were in place for: administration of the survey; receipt of survey data; respondent information and assistance; coding, editing and entering data; and procedures for missing data and data that fails edits.	
• Methodologically appropriate data preparation and analysis procedures were used.	

• Sample selection processes were sound.	
Activity 5: Response rate	
• Specify if mail, phone, face-to-face, or combination strategy was used to contact targeted survey respondents.	
• Specifications for calculating raw and adjusted response rates are clear and appropriate.	
• The response rate, potential sources of non-response and bias, and implications of the response rate for the generalizeability of survey findings are assessed.	

Activity 6: Review of Data Preparation and Analysis	
• Quality control procedures were in place for: administration of the survey; receipt of survey data; respondent information and assistance; coding, editing and entering data; and procedures for missing data and data that fails edits.	
• Methodologically appropriate data preparation and analysis procedures were used.	

• Final report provided understandable and relevant data.	
Activity 7: Documentation of Validation of Survey. The EQRO documents its findings regarding its:	
• assessment of the technical methods of survey implementation and analysis, and the survey's technical strengths and weaknesses	
• the limitations /generalizeability of survey findings	

• conclusions drawn from the survey data.	
• a detailed assessment of each MCO's/PHP's strengths and weaknesses with respect to (as appropriate) access, quality, and/or timeliness of health care furnished to Medicaid enrollees.	
• comparative information about all MCOs/PHPs (as directed by the State).	

Taking the Pulse of Consumers and Providers through Surveys

Taking the Pulse of Consumers and Providers through Surveys

Vasudha Narayanan
The WESTAT Group

VASUDHA NARAYANAN M.S., M.B.A., M.A.

Vasudha Narayanan is a study Director with a diverse background in market analysis, consumer interface, and project management. At WESTAT, she has been responsible for questionnaire design, data collection and the design and management of every aspect of survey operations, with particular emphasis on studies of health insurance. Ms. Narayanan's relevant project experience with WESTAT includes participation with: a survey of experiences with Medicare HMO's conducted for the Kaiser Family Foundation; a health communication market research for providers task order conducted to help the Health Care Financing Administration understand the information needs of providers and other partners; and a beneficiary market research task order conducted for the Health Care Financing Administration which included an inventory of existing information on the information needs of, and how to communicate with, Medicare beneficiaries on the Medicare program, supplemental health insurance and managed care, and general health topics.

Performance Measurement for Washington State Medicaid

- What do we measure?
- Choosing the measures
- Problems in choice of measures
- Validation of measures
- Use of measures
- Problems in the use of measures
- Moral of the story

Performance Measures for Washington State Medicaid

- HEDIS
  - immunizations (childhood and adolescent)
  - prenatal care in the first trimester
  - cervical and breast cancer screening
  - comprehensive diabetes care

- State-developed

Performance Measures for Washington State Medicaid

- State-developed measures
  - EPSDT
  - Post-partum care and family planning
  - Measures adapted for Fee-for-service population

Choosing performance measures

- Quality Assurance Reform Initiative
- Statewide Interagency Quality Committee
- Joint quality oversight with sister agency
- Strategic initiative with Department of Health
- Population and what makes sense

Problems in choosing measures

- Stakeholders want measures that
  - don't exist
  - are hard to collect
  - have no benchmarks

Problems in choosing measures

- Needs of our sister agencies (Health Department and other state purchaser) are not the same as ours
- Need to choose measures that relate to health plan accountability
- What can encounter data be used for instead?
- Burden of producing HEDIS measures

Measure validation

- Chart review measures: inter-rater reliability
- HEDIS measures: HEDIS Compliance Audit
- Problems with definitions and interpretation: lines of business, partial vs. complete, etc.

Use of performance measures

- Public reports
- Corrective action
- Statewide improvement teams

Problems in use of performance measures

- Governor's office wants guaranteed improvement on measures that don't change from year to year
- Stakeholders want understandable measures at the county or provider level
- Plans need technical assistance on corrective action
- What are we really measuring?

Problems in use of measures

- Cycle of contract, measurement, and improvement:
  - Year 1, write contract with HEDIS requirement
  - Year 2, plans collect HEDIS data
  - Year 3, plans report measure
  - Year 4, corrective action in place
  - Year 5, improvement takes effect
  - Year 6, improvement shows up in measure

Moral of the story

- HEDIS is not enough, but it may be too much
- Need to strike a balance between the interests of stakeholders and good science
- Public humiliation only goes so far in producing improvement

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Choosing performance measures

- Quality Assurance Reform Initiative
- Statewide Interagency Quality Committee
- Joint quality oversight with sister agency
- Strategic initiative with Department of Health
- Population and what makes sense

Problems in choosing measures

- Stakeholders want measures that
  - don't exist
  - are hard to collect
  - have no benchmarks

Problems in choosing measures

- Needs of our sister agencies (Health Department and other state purchaser) are not the same as ours
- Need to choose measures that relate to health plan accountability
- What can encounter data be used for instead?
- Burden of producing HEDIS measures

Measure validation

- Chart review measures: inter-rater reliability
- HEDIS measures: HEDIS Compliance Audit
- Problems with definitions and interpretation: lines of business, partial vs. complete, etc.

Use of performance measures

- Public reports
- Corrective action
- Statewide improvement teams

Problems in use of performance measures

- Governor's office wants guaranteed improvement on measures that don't change from year to year
- Stakeholders want understandable measures at the county or provider level
- Plans need technical assistance on corrective action
- What are we really measuring?

Problems in use of measures

- Cycle of contract, measurement, and improvement:
  - Year 1, write contract with HEDIS requirement
  - Year 2, plans collect HEDIS data
  - Year 3, plans report measure
  - Year 4, corrective action in place
  - Year 5, improvement takes effect
  - Year 6, improvement shows up in measure

Moral of the story

- HEDIS is not enough, but it may be too much
- Need to strike a balance between the interests of stakeholders and good science
- Public humiliation only goes so far in producing improvement

Approaches and Uses of Tools to Identify Individuals With Special Health Care Needs

Approaches and Uses of Tools to Identify Individuals With Special Health Care Needs

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John Neff, Professor of Pediatrics at the University of Washington School of Medicine and Director of the Center for Childhood Chronic Conditions at Children's Hospital and Regional Medical Center in Seattle, Washington, is a graduate of Pomona College and Harvard Medical School. He was on the faculty at Johns Hopkins Medical School from 1968 to 1981, and served in the Dean's Office of the Medical School from 1968-1975. From 1975 to 1981 he directed the pediatric program at The Baltimore City Hospitals, where he developed a pre-paid practice plan for the city's foster children.

From 1981 to 1988, he was Medical Director and Vice President of Children's Hospital and Regional Medical Center in Seattle and Associate Dean at the University of Washington School of Medicine. In 1998 he became Director of the Center for Children with Special Needs and Chronic Health Condition.

He has served on the State Perinatal Advisory Committee, the State Parent/Child Health Advisory Council, and The Family and Children's Ombudsman Committee. Since 1933 he has chaired the Washington State Issue Investigative Group on Children with Special Health Care Needs and he has consulted with the National Association of Children's Hospitals and Related Institutions (NCDHRI) on defining children with special needs and their capitation needs in managed care.

He has broad interests in preventive medicine, child health, and children with special health care needs.

Approaches and Uses of Tools to Identify Individuals With Special Health Care Needs

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Christina Bethell, Ph.D., M.B.A., M.P.H.

BIOGRAPHICAL SKETCH

Dr. Bethell, is the Senior Vice President, Research and Policy at FACCT— The Foundation for Accountability. FACCT is a not-for-profit organization dedicated to helping consumers make better health care decisions. Dr. Bethell has more than 15 years of experience in both health care policy and administration and public health at the state, local and federal levels. She is a former senior policy analyst with VHA Inc. in Washington, DC, senior research associate with Chicago's Rush Primary Care Institute and health policy analyst with both the American Association of Retired Persons and California's Health Access Foundation. In each of these roles, her primary focus has been on shaping a health care system that is organized, financed and evaluated in ways that meet the health needs of the public. Dr. Bethell also has extensive experience working with communities to assess health needs and develop partnerships to improve health. She holds a Ph.D. in health services and policy research from the University of California at Berkeley. Her research has focused on both the role of the health care system in improving community health and the development and testing of indicators of performance for the health care system in the area of prevention and primary care.

Dr. Bethell, is the Senior Vice President, Research and Policy at FACCT— The Foundation for Accountability. Since FACCT's beginning, she has been responsible for the development of quality performance measures and consumer research and is director of the Children and Adolescent Health Measurement Initiative – a national collaborative between FACCT and the National Committee for Quality Assurance.

VALIDATING PERFORMANCE MEASURES

I. PURPOSE OF THE PROTOCOL

This protocol specifies activities to be undertaken by an EQRO[1] in order to validly:

1. Evaluate the accuracy of Medicaid performance measures reported by, or on behalf of, a Managed Care Organization (MCO) or a Prepaid Health Plan (PHP); and

2. Determine the extent to which Medicaid-specific performance measures calculated by an MCO/PHP (or by an entity acting on behalf of an MCO or PHP) followed specifications established by the State Medicaid agency (the State) for the calculation of the performance measure(s).

II. ORIGIN OF THE PROTOCOL

This protocol was derived from protocols and tools commonly used in the public and private-sectors for auditing performance measures. These include:

- the National Committee for Quality Assurance's (NCQA) 1999 HEDIS® publication: *Volume 5, HEDIS Compliance Audit™ Standards and Guidelines*;
- tools used by the Island Peer Review Organization (IPRO) in their audits of HEDIS measures for Medicare; and
- documents from the MEDSTAT Group, Inc., published in conjunction with work performed for HCFA in 1997 and 1998.

A review of these tools found that, while there were differences, these documents had much in common.

Both NCQA's and IPRO's documents address the validation of HEDIS measures only. They assess:

- the structure and integrity of the MCO's/PHP's underlying information system (IS);
- MCO/PHP ability to collect valid data from various internal and external sources;
- vendor (or subcontractor) data and processes, and the relationship of these data

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[1] It is recognized that a State Medicaid agency may choose an organization other than an EQRO as defined in Federal regulation to validate Medicaid performance measures submitted by or on behalf of an MCO/PHP. However, for convenience, in this protocol we use the term, "external quality review organization" (EQRO) to refer to any organization that validates performance measures.

sources to those of the MCO/PHP;

- MCO/PHP ability to integrate different types of information from disparate data sources into a data repository or set of consolidated files for use in constructing plan-level performance measures; and
- documentation of the MCO's/PHP's processes to: collect appropriate and accurate data, manipulate those data through programmed computer queries, internally validate the results of the operations performed on the data sets, follow specified procedures for calculating the specified performance measures, and report the measures appropriately.

The MEDSTAT publications focus primarily on validation of encounter-level data, and the use of those data in Medicaid MCO performance measures, regardless of whether the performance measures are based on the NCQA Medicaid HEDIS measures or have been developed by other groups or organizations. However, the MEDSTAT publications do not provide detailed instructions or guidelines that an EQRO might use to validate the plan-level performance measures once the encounter data are validated.

The protocol presented here is consistent with the approaches used in the IPRO and NCQA documents, but is designed with a MEDSTAT-like approach in that it describes how to validate all performance measures - HEDIS measures as well as non-HEDIS measures. It varies from the IPRO and NCQA protocols in that certain components of performance measure validation may be performed as a part of this protocol or accomplished through some other mechanism(s) used by the State. For example, as part of this protocol, an assessment of the MCO's/PHP's IS is required. This IS assessment may be conducted as a part of this protocol by the EQRO validating the performance measures, or the EQRO may review an assessment of the MCO's /PHP's IS conducted by another party.

III. OVERVIEW OF THE PROTOCOL

The protocol assumes that the State has specified:

- the performance measures to be calculated by MCOs/PHPs;
- the specifications to be followed in calculating these measures; and
- the manner and mechanisms for reporting these measures to the State.

Protocol activities address:

1. Review of the data management processes of the MCO/PHP;

2. Evaluation of algorithmic compliance (the translation of captured data into actual statistics) with specifications defined by the State; and

3. Verification of either the entire set or a sample of the State-specified performance

measures to confirm that the reported results are based on accurate source information.

The protocol consists of three phases of activities: Pre-Onsite, Onsite and Post-Onsite activities. For each of these phases, the protocol specifies: 1) outcomes or objectives; 2) activities to be performed; 3) methods of evaluation; and 4) tools and worksheets.

Pre-Onsite activities involve:

1. Communicating with the State to ensure that the EQRO understands:

    - the measures to be validated (i.e., the entire set versus a subset of those calculated by the MCO/PHP); and

    - the methodology(ies) the State requires the MCO/PHP to follow when calculating and reporting the performance measures; and

2. Either conducting an assessment, or reviewing the results of a prior assessment, of the MCO's/PHP's underlying IS.

Onsite activities focus on: 1) following up on IS findings identified in the Pre-Onsite activities as being potentially problematic or in need of further review or clarification; and 2) validating the production and reporting of performance measures through observation of documentation or procedures. These activities include:

1. Reviewing and assessing the procedures the MCO/PHP has in place for collecting and integrating medical, financial, member and provider information, covering both clinical and service-related data, from internal and external sources;

2. Evaluating processes used by the MCO/PHP to produce performance measures; e.g., sampling, calculating denominators and numerators; and

3. Evaluating the MCO's/PHP's processes for reporting required performance measures to the State.

To accomplish these activities, the EQRO reviews policy and procedure manuals and documents, observes required activities, and conducts interviews with key MCO/PHP staff such as the Director of Health/Medical Information Systems, IS programmers or operators, Director of Member/Patient Services, Director of Utilization Management, and the Director of Quality Improvement.

Post-Onsite activities focus on the analysis of the data and information obtained through Pre-Onsite and Onsite activities, and submission of the validation report and supporting documentation to the State following the format and time frames established by the State. These activities include:

1. Evaluating gathered information and preparing a report of preliminary findings;

2. Submitting reports of preliminary findings identifying areas of concern to the MCO/PHP;

3. If the State provides the MCO/PHP with the opportunity to recalculate performance measures based on EQRO findings, re-reviewing selected performance measurement processes;

4. Evaluating gathered information and preparation of findings for the State; and

5. Submitting reports to the State.

The protocol identifies alternative approaches to determining the extent to which the MCO/PHP has complied with requirements for calculating and reporting performance measures. In one option, the EQRO would submit a summary of its findings along with the completed protocol assessment tools to the State as supporting documentation, but without a validation designation for individual performance measures. Based on the information submitted by the EQRO, the State would make a determination of the extent to which the MCO/PHP has adequately calculated and reported the specified performance measures. Alternatively, the EQRO could apply clearly defined decision rules established by the State and specify a validation finding for each performance measure.

IV. PROTOCOL ACTIVITIES

PRE-ONSITE ACTIVITIES

Objectives for Pre-Onsite Activities:

The EQRO will:

1. understand the technical specifications for each of the performance measures required by the State;

2. understand the State's requirements for performance measure reporting by the MCO/PHP to the State (e.g., report template, electronic submission format, etc.); and

3. conduct and review an assessment (or review the results of a previously conducted assessment) of the MCO's/PHP's IS.

PRE-ONSITE ACTIVITY 1: Review the State's requirements for MCO/PHP performance measurement and reporting.

The EQRO will need to obtain from the State a list of all performance measures that the State requires the MCO/PHP to produce and ascertain, in consultation with the State, whether the validation activities are to include all such measures or a subset of those measures. The EQRO will also need to obtain the State's instructions (specifications) on how the MCO/PHP is to calculate each performance measure.

The specific performance measures that a State requires its Medicaid MCOs/PHPs to report will depend on a number of factors unique to each State. If a State chooses to use a set or subset of established standardized plan-level performance measures, there are a number of options from which to choose. These include the NCQA's HEDIS measures, measures identified by the Foundation for Accountability (FACCT), measures found in the Agency for Healthcare Research and Quality's CONQUEST database, or measures suggested by MEDSTAT in its publication, *A Guide for States to Assist in the Collection and Analysis of Medicaid Managed Care Data*[2]. In addition, States with the resources and expertise to develop and test the detailed specifications necessary for valid and reliable performance measures may establish their own performance measures. Regardless of the type or number of performance measures chosen by the State, the EQRO must understand the State's specifications (e.g., sampling guidelines, instructions for calculating numerators and denominators) for each performance measure, as well as the State's instructions to the MCO/PHP for reporting the required performance measures to the State.

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[2]Prepared under HCFA Contract #500-92-0035. December 1998.

Four basic data collection methodologies typically are used to produce plan-level performance measures: 1) use of administrative data, 2) review of medical records, 3) use of administrative data together with medical record review (commonly called the "hybrid" methodology), and 4) use of surveys.

Use of administrative data requires the MCO/PHP to access data contained in its management information system(s) to calculate both the denominator and numerator of a given performance measure. Such data includes encounter or claims data (transaction data) as well as other automated enrollee and provider information. The rate that is reported is based on information found solely in these administrative data sources.

Calculating performance measures from medical record review requires the visual inspection of the medical records of a sample of MCO/PHP enrollees to determine if each enrollee received the service(s) in question (typically, this is the numerator of the performance measure). Because medical record reviews are time-consuming and costly, most developers and users of performance measures are attempting to use, to the extent feasible, performance measures that can be calculated from administrative data. If medical record review is unavoidable, the less costly and less burdensome "hybrid" methodology can be used.

The hybrid methodology combines the use of administrative data with a review of medical records. The denominator of the measure is first identified using administrative data for a sample of eligible members. The numerator is then determined using data from both administrative and medical record reviews. Typically, the MCO/PHP will first query its administrative data for evidence of the numerator event for all individuals included in the denominator sample. For any member of the sample who is missing an administrative notation that the numerator service was received, the medical record is reviewed.

Finally, surveys also are used to produce plan-level performance measures. Surveys may include information collected directly from enrollees, relatives, primary caregivers of enrollees, or providers of healthcare services. Administration and validation of surveys are complex subjects and are discussed in separate protocols.

States may require or allow MCOs/PHPs to report performance measures to the State in different ways. A State may choose to have plan-level performance measures reported to it in an electronic format, such as a comma-delimited, ASCII file; or it may establish a set of electronic reporting "shells" that MCOs/PHPs fill out and send to the State, with attestations of the accuracy of the information. States could also allow hardcopy submission of calculated performance measures.

States will also determine the timing of the submission of the calculated performance measures. Typically, States require performance measures to be calculated and submitted annually. The annual submissions may be timed to coincide with the end of the State fiscal year, the calendar year, or another reporting cycle, such as the reporting cycle used by NCQA for HEDIS submissions. The EQRO needs to understand the expected dates and format for MCO/PHP reporting.

To facilitate its on-site validation of measures, the EQRO should create a "List of Performance Measures to be Calculated by the MCO/PHP" (such as that shown in TABLE 1) in order to understand the measures required by the State, the possible methods the MCO/PHP may use to collect them, and the reporting frequencies and format mandated by the State.

TABLE 1

List of Performance Measures to be Calculated by the MCO/PHP (EXAMPLE)

SAMPLE MEASURES	METHOD FOR CALCULATING PERFORMANCE MEASURE				
	Administrative Data	Medical Record Review	Hybrid	Survey	Reporting Frequency and Format
The table should have a row for each measure to be calculated and reported by the MCO/PHP, as illustrated below:					
Childhood immunization rate					
Adolescent immunization rate					
Percentage of enrollees with at least one PCP visit					
Lead screening rate					
Breast cancer screeningrate					
Initiation of prenatal care					
Comprehensive diabetes care					
Availability of language interpretation services					
Follow-up after hospitalization for mental illnesses					
Women's chlamydia screening rate					
Rate of adverse asthma events					

For each measure in the EQRO-created "List of Performance Measures to be Calculated by the MCO/PHP," the EQRO also should create a separate performance measure validation worksheet that contains the specifications and components of each performance measure that is to be validated, including: 1) specifications for the eligible population for the measure; 2) data collection methodology; 3) sampling methodology (if used); 4) denominator calculations; 5) numerator calculations; and 6) calculated and reported rates. A generic "Performance Measure Validation Worksheet" is found below (TABLE 2), containing placeholders for the components to be validated and the elements to be audited. The EQRO should customized this or a similar worksheet to include the specifications (defined by the State) for each performance measure to be reported by the MCO/PHP. For example, if the measure is Breast Cancer Screening (following the HEDIS specifications), the EQRO would replace the general "age and sex" categories in the denominator portion of the tool with the particular age and sex specifications associated with that measure, i.e., females between the ages of 52-69. Using a performance measure validation worksheet will improve the efficiency of the validation work performed on site. An example of a completed *Performance Measure Validation Worksheet* is included as ATTACHMENT I.

TABLE 2

GENERIC PERFORMANCE MEASURE VALIDATION WORKSHEET

For each performance measure to be validated (as listed in TABLE 1 of this Pre-Onsite Activity), adapt the generic table shell below to create a validation worksheet for the measure. [An example of a completed Performance Measure Validation Worksheet is included as ATTACHMENT I].

PERFORMANCE MEASURE { Insert name of performance measure}				
Validation Component	**Audit Element**	**Meets Validation Requirements**		
		Yes	**No**	**N/A**
Documentation	Appropriate and complete measurement plans and programming specifications exist that include data sources, programming logic, computer source code.			
Denominator	Data sources used to calculate the denominator (e.g., claims files, medical records, provider files, pharmacy records) were complete and accurate.			
	Calculation of the performance measure adhered to the specifications for all components of the denominator of the performance measure (e.g., member ID, age, sex, continuous enrollment calculation, clinical codes such as ICD-9, CPT-4, DSM-IV, member months calculation, member years calculation, adherence to specified time parameters).			
Numerator	Data sources used to calculate the numerator (e.g., member ID, claims files, medical records, provider files, pharmacy records, including those for members who received the services outside the MCO/PHP's network) are complete and accurate.			

	Calculation of the performance measure adhered to the specifications for all components of the numerator of the performance measure (e.g., clinical codes such as ICD-9, CPT-4, DSM-IV, pharmacy data, relevant time parameters such as admission/discharge dates or treatment start and stop dates, adherence to specified time parameters, number or type of provider).			
	If medical record abstraction was used, documentation/tools were adequate.			
	If hybrid method was used, the integration of administrative and medical record data was adequate.			
	If hybrid method or solely medical record review was used, the results of the medical record review validation substantiate the reported numerator.			
Sampling	Sample was unbiased.			
	Sample treated all measures independently.			
	Sample size and replacement methodologies met specifications.			
Reporting	State specifications for reporting performance measures were followed.			

ASSIGNING A VALIDATION FINDING TO THE MEASURE*

The validation finding for each measure is determined by the magnitude of the errors detected for the audit elements, not by the number of audit elements determined to be "NOT MET." Consequently, it is possible that an error in a single audit element may result in a designation of "NV" because the impact of the error biased the reported performance measure by more than *"x"* percentage points. Conversely, it is also possible that several audit element errors may have little impact on the reported rate and, thus, the measure could be given a designation of "SC." The following is a list of validation findings and their corresponding definitions:

FC = ***Fully Compliant***
Measure was fully compliant with State specifications.

SC = ***Substantially Compliant***
Measure was substantially compliant with State specifications and had only minor deviations that did not significantly bias the reported rate.

NV = ***Not Valid***
Measure deviated from State specifications such that the reported rate was significantly biased. This designation is also assigned to measures for which no rate was reported, although reporting of the rate was required.

NA = ***Not Applicable***
Measure was not reported because MCO/PHP did not have any Medicaid enrollees that qualified for the denominator.

AUDIT DESIGNATION	

*** Assigning a validation finding to a measure is discussed in Post-Onsite Activity 1. This material is included**

here because it should be part of a performance measure validation worksheet.

PRE-ONSITE ACTIVITY 2: Prepare the MCO/PHP for EQRO On-site Activities.

Prior to conducting onsite activities, the EQRO will contact the MCO/PHP in order to:

- explain the procedures and time line for performance measure validation activities;
- request identification of personnel within the MCO/PHP who will be responsible for responding to EQRO requests for documentation or information, as well as scheduling activities and interviews; and
- communicate the EQRO's policies and procedures with respect to safeguarding confidential information.

An introductory letter to the MCO/PHP should discuss the above issues and explain the EQRO's potential need to interview MCO/PHP personnel, so that interviewees are prepared in terms of time and information. Potential interviewees include any MCO/PHP or vendor staff whose areas of expertise or responsibility relate to performance measurement and whose insights might improve the EQRO's understanding of MCO/PHP processes to calculate or report performance measures. These include, for example: the Director of Health/Medical Information Systems, IS programmers or operators, Director of Member/Patient Services, Director of Utilization Management, and the Director of Quality Improvement.

Also, the EQRO will provide to, or request from, the MCO/PHP four other types of information in preparation for its on-site activities:

1. a list and description of all State-required performance measures calculated by or on behalf of the MCO/PHP;
2. a list of all enrollees (or enrollee identifiers) included in the numerators of performance measures calculated wholly or in part by medical record review;
3. a list of documents that the EQRO may potentially review during onsite activities; and
4. background information on the MCO's/PHP's Information Systems.

1. List of performance measures calculated by the MCO/PHP. This list of performance measures calculated by the MCO/PHP (TABLE 3) is similar to the list completed by the EQRO during Pre-Onsite Activity 1 (TABLE 1). However, while the TABLE 1 list was prepared by the EQRO to familiarize itself with the State's requirements for performance measures, TABLE 3 is sent to the MCO/PHP by the EQRO for the MCO/PHP to complete. The MCO/PHP is to insert into the table, next to each performance measure listed in the table, information on the methods the MCO/PHP used to calculate the performance measures required by the State. This is especially important for those measures for which the MCO/PHP has a choice of methods to use for their calculation; e.g., administrative, medical record review, or hybrid data collection methodologies. The EQRO should send to the MCO/PHP the same list of measures contained in

TABLE 1, but with a modified title and instructions (as illustrated in TABLE 3, below) to reflect that the MCO/PHP is to complete the table and return it to the EQRO.

TABLE 3

List of Performance Measures Calculated by the MCO/PHP - Example

Instructions to MCOs/PHPs: *For each measure the State requires you to report (in column 1), indicate the method(s) your MCO/PHP used to produce it by checking columns 2 - 5, as appropriate. In column 6 note the reporting frequencies (e.g., quarterly, annually) and format (e.g., paper report, electronic medium) your MCO/PHP has used (or expects to use) to report to the State. Return this table to (name of EQRO) by (date), so that this information may be reviewed prior to our site visit to validate your MCO's/PHP's performance measures.*

Measure {Examples}	Administrative	Medical Record Review	Hybrid	Survey	Reporting Frequency and Format
The table should contain a row for each measure to be calculated and reported by the MCO/PHP.					
Childhood immunization rate					
Adolescent immunization rate					
Percent of enrollees with at least one PCP visit					
Lead screening rate					
Breast cancer screening rate					
Initiation of prenatal care					
Comprehensive diabetes care					
Language interpretation services - availability					
Follow-up after hospitalization for mental illnesses					
Women's chlamydia screening rate					
Rate of adverse asthma events					

2. A list of all enrollees (or enrollee identifiers) included in the numerators of all measures calculated in part or wholly from medical record review. For each of at least three performance measures which the MCO/PHP calculated either entirely by medical record review or by the hybrid methodology, the EQRO will review, onsite, 30 medical records found to meet numerator requirements. The purpose of this review is to verify the accuracy of the medical record review conducted by each MCO/PHP.

To provide sufficient time for each MCO/PHP to gather the required medical record documentation, the MCO/PHP will need to identify to the EQRO, prior to the EQRO's on-site visits: 1) all performance measures calculated through medical record review or the hybrid methodology (obtained by completing TABLE 3), and 2) for measures which used medical record review or the hybrid methodology and selected by the EQRO, a list of enrollees included in the numerator for each measure as a result of positive findings through medical record review. From this list, the EQRO will select 30 members for each performance measure. The MCO/PHP will then be asked to make available the medical records or copies of medical records for these enrollees at the time of the on-site visit. In cases where there are fewer than 30 numerator positives, the EQRO will review all records for that measure.

3. List of potential validation documents and processes. The *List of Potential Validation Documents and Processes* (ATTACHMENT II) identifies documents and information concerning the MCO's/PHP's data sources and processes that the EQRO may review during the course of the validation activities. This list is intended to assist the MCO/PHP in preparing for the validation audit.

4. Information Systems Capabilities Assessment Tool (ISCA). The EQRO will send an Information Systems Capabilities Assessment Tool (ISCA) to the MCO/PHP, to be completed and returned to the EQRO prior to the on-site visit. The ISCA consists of questions and requested documentation to provide the EQRO with background information on the MCO's/PHP's policies, processes, and data needed for the onsite validation activities. The ISCA is discussed in detail, in Pre-Onsite Activity 3.

PRE-ONSITE ACTIVITY 3: Assess the integrity of the MCO'S/PHP's information system.

Complete and accurate data is key to valid and reliable performance measurement. If these two data characteristics are not maintained, then calculated measures become flawed, and their validity jeopardized. Therefore, prior to validating individual performance measures, the EQRO must first assess the integrity of the MCO's/PHP's IS and the completeness and accuracy of the data produced by that system.

Methods of Evaluation

Prior to conducting the onsite visit, the EQRO should send to the MCO/PHP an Information Systems Capabilities Assessment Tool (ISCA) such as that located in Appendix A. The ISCA asks questions of and requests documentation from the MCO/PHP in order to provide information on the MCO's/PHP's IS policies and procedures to help focus onsite validation activities. The ISCA found in Appendix A corresponds to the key objectives identified in this protocol. The first section of the ISCA provides general background information on the MCO/PHP. Subsequent sections address the structural components of the IS, focusing on the collection of administrative, encounter, and clinical data, and the consolidation or coordination of those data files for use in performance measurement and quality improvement activities.

The ISCA also requests information from the MCO/PHP concerning the conduct and timing of any other recent, independent, documented assessment of its IS. An assessment may already have been conducted by the State itself or by another entity. IS assessment could have been performed as a component of validating encounter data or determining compliance with Medicaid standards pertaining to MCO/PHP ISs. If the MCO/PHP has not had an IS capability assessment completed, or has not had one completed within a time frame that meets State specifications[3], the EQRO will conduct an IS assessment as part of this protocol, using an information systems assessment tool, such as that in Appendix A. Alternatively, if the MCO/PHP recently had an independent assessment of its IS, the EQRO could review the results of this prior assessment.

The EQRO should assess the MCO's/PHP's IS using questions and approaches such as those contained in Appendix A, or review the results of a recent IS assessment consistent with the content in Appendix A. This will ensure that auditors are familiar with the strengths and

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[3] Each State will determine the frequency with which it wants an MCO's/PHP's IS capability assessment to take place (thereby determining the length of time such an assessment is valid). On the one hand, the process is time- and resource-intensive, so limiting the burden on the MCO/PHP should be a factor in the determination. On the other hand, IS technology changes rapidly, so the State should ensure that changes to an MCO/PHP's IS are assessed frequently enough to ensure that the structure and function continue to be adequate for the State-required tasks.

weaknesses of the MCO's/PHP's IS. As the EQRO reviews the IS assessment report, it should pay close attention to the strengths and weaknesses of the MCO's/PHP's IS with respect to the types of data frequently used in plan-level performance measures, such as data on: membership/enrollment, claims/encounters, providers, laboratory and pharmacy services, and medical record data. Some of the characteristics commonly associated with these data elements that may affect performance measures are:

- **Membership/Enrollment Data.** Elements of the membership or enrollment database will vary by MCO/PHP. However, for the purposes of plan-level performance measurement, the membership or enrollment database should capture at least the following information:
    - age/date of birth.
    - enrollment and/or termination dates. (Note: The MCO's/PHP's data system should be able to track multiple enrollment and termination dates).
    - primary care provider.
    - member identification number such as the member's social security number, MCO- or PHP-designated number, State-issued Medicaid number, HCFA-issued Medicare number. (Note: Be aware of cases in which more than one member may exist under the same identification number within the system; or in which the same member may exist under more than one identification number within the system; or in which a member's identification number may change through re-enrollment, name change, or switch in product-line coverage).

  The EQRO also should be aware of whether the MCO/PHP has processes in place to periodically ensure that enrollment/membership data are current and accurate, particularly at the time it runs its source code/computer programs to identify denominators for plan-level performance measures.

  Further, the EQRO should be aware of changes in the MCO's/PHP's membership data systems that might affect the production of the plan-level performance measures. Major changes, upgrades or consolidations within the system, or acquisitions/mergers with other MCOs/PHPs may impact the accuracy or completeness of any of the data elements, which, in turn, may impact the validity of the reported measures.

- **Provider Data.** Elements of the provider data set should typically include:
    - Designation as a primary care physician and/or providers' specialty.
    - Provider identification number, such as a Tax ID number, or MCO- or PHP-designated number. (Note: Though it may be less common to see duplication of provider numbers within a provider database than duplication of member identifications within a membership/enrollment

database, the EQRO should be aware of any circumstances in which more than one provider can exist with the same identification number within the system, or circumstances in which the same provider may have more than one identification number within the system).

- Providers with more than one office location.
- Providers with closed panels (i.e., provider availability).
- Provider start and termination dates.
- Provider certification data such as licensure, provider residency/fellowship, date and specialty of Board Certification status.

The EQRO should be aware of whether the MCO/PHP has processes in place to periodically ensure that provider data are current and accurate for all types of providers (individual providers, provider groups, provider networks, contracted vendors). This becomes particularly important at the time the MCO/PHP runs its source code/computer programs to identify elements of plan-level performance measures.

Further, the EQRO should be aware of changes in the MCO's/PHP's provider data systems that might affect the production of the performance measures. Major changes, upgrades or consolidations within the system, or acquisitions/mergers with other MCOs/PHPs may impact the accuracy or completeness of any of the data elements, which, in turn, may impact the validity of the reported measures.

- **Claims Data and Encounter Data.** Claim/encounter data should cover all types of services offered by the MCO/PHP, such as: behavioral health, family planning, home health care, hospital, laboratory, pharmacy, primary care, radiology, specialty care, vision care. These data typically include the following elements:

- Patient ID	- Name
- Sex	- Age
- Date of birth	- First date of service
- Last date of service	- Provider specialty
- Primary diagnosis	- Secondary diagnosis
- Primary procedure	- Secondary procedure
- Revenue codes	- Provider ID
- Provider specialty	- Discharge status

For each type of claim/encounter data captured, the EQRO should be aware of: 1) the total number of diagnosis and procedure codes that can be captured by the system; 2) whether or not principal or secondary diagnosis or procedure codes can be accurately

distinguished in the system; and 3) the maximum number of digits or characters the system captures for each type of claim/encounter. For many plan-level performance measures, the accuracy and validity of the measure may be adversely affected if the MCO's/PHP's IS is unable to collect and/or differentiate among a sufficient number of codes.

The various coding systems and forms used by the MCO/PHP and its vendors to capture clinical information through its claims and encounter databases are relevant to validating plan-level performance systems. Coding systems are formal, standardized approaches (such as ICD-9, CPT-4, DSM-IV, revenue codes, or internally developed codes) to categorize types of encounters and procedures by data elements such as inpatient and ambulatory diagnoses and procedures for medical, surgical, or mental health/substance abuse encounters/claims. Note that internally-developed codes may be particularly problematic. The EQRO should understand how the MCO's/PHP's IS translates or maps these codes back to standard codes for plan-level performance measure reporting, and how it ensures the accuracy of these translation processes.

- **Medical Record Data.** In cases where medical records are accessed to obtain information for calculating plan-level performance measures, the EQRO should be aware of how the MCO/PHP retrieves information from medical records. For example, the training and tools that medical record review staff receive may affect the accuracy and completeness of the data retrieval. A second area of concern is how medical record data is entered into any database that will be used to produce the performance measures.

- **Pharmacy and Laboratory Data.** A key issue commonly encountered with pharmacy or laboratory data for Medicaid managed care plans is that these services are frequently contracted out to a variety of providers. Ideally, pharmacy data will use standardized codes for prescription drugs such as those promulgated by the National Council for Prescription Drug Programs (NCPDP), and laboratory services will use a similar, nationally recognized system of coding. However, the diverse nature of the size, type, and ownership of pharmacy and laboratory providers should lead the EQRO to anticipate wide variations in the use of standardized coding and a multitude of unique "home grown" codes. These non-standard coding schemes require that the MCO/PHP have a system to develop crosswalks among these different codes in order to store the necessary information in its performance measure database. As with the assessment of the claims/encounter data systems, the EQRO should understand not only the MCO's/PHP's system of mapping non-standard pharmacy and lab codes to standardized codes, but the mechanism the MCO/PHP uses to ensure the accuracy of these translation processes.

  If pharmacy or laboratory data are not collected through an administrative or claims database, pharmacy or lab data may be present in medical records. However, relying on medical records to supply pharmacy or laboratory data is problematic because of

obstacles such as non-standard coding and terminology and poor coordination of records and record linkages between primary care and specialist providers. The EQRO should be aware of these issues and question providers on the reliability of medical record data and pharmacy data as appropriate.

In addition, for many plan-level performance measures, the IS will need to be able to link these different sources of data. For example, in order to identify enrollees with diabetes, an MCO/PHP may have to combine diagnosis code data from inpatient or ambulatory encounters (not all ongoing conditions are reported at every encounter) with pharmacy data, lab data, and/or a disease registry if one exists. To determine whether these diabetic enrollees have received a retinal examination from an ophthalmologist or optometrist within the previous year, the MCO/PHP would have to link procedure code data from either encounter forms, medical records, or claims with information about the specialty of the providers that performed the examinations for these members.

The EQRO will analyze the results of the assessment of the MCO's/PHP's IS and determine the implications of the findings for the ability of the MCO/PHP to calculate the performance measures specified by the State. The EQRO will evaluate MCO/PHP answers against IS capabilities necessary to accurately and completely calculate and report the specific plan-level performance measures mandated by the State, and will identify any problem areas or items in need of clarification. Where an answer seems incomplete, or indicates an inadequate process, the EQRO notes this issue for follow-up and further review during the onsite activities. This will help the onsite validation activities focus on the areas most likely to be an issue in the validation process. In addition, knowledge gained from the ISCA provides a knowledge base for effective interviews with key MCO/PHP staff.

Objectives for Onsite Activities:

The EQRO will evaluate the extent to which the MCO/PHP has:

1. adequate data integration and control procedures for accurate production of the State-specified performance measures;
2. complete and accurate documentation of data and processes used to calculate and report the State-specified performance measures; and
3. correctly implemented appropriate processes for calculating and reporting the State-specified performance measures.

ONSITE ACTIVITY 1: Assess data integration and control.

In the last activity (Pre-Onsite Activity 3), the EQRO examined background information on the capability of the MCO's/PHP's IS to collect and integrate valid data from sources internal and external to the MCO/PHP. This on-site activity further assesses: 1) the MCO's/PHP's ability to link data from multiple sources in order to calculate the State-mandated performance measures; and 2) whether the MCO/PHP has used these abilities in a manner that ensures the accuracy of the calculated performance measures. This assessment will be accomplished through:

1. Review of documentation, procedures, and data pertaining to the MCO's/PHP's IS, and
2. Interviews of MCO/PHP personnel with knowledge of the MCO's/PHP's IS and its application to performance measurement.

ATTACHMENT III, *IS Data Integration and Control - Documentation Review Worksheet* lists documents, data, and procedures to be examined to assess MCO/PHP data integration and control. EQROs should use a worksheet such as ATTACHMENT III to document their findings. In examining the MCO's/PHP's documentation, procedures and data, the EQRO should:

1. Examine for accuracy and completeness the details of the MCO's/PHP's processes to transfer data from membership, provider, encounter/claims, and other data files into a data repository (or use of other mechanism(s) to consolidate data) to calculate performance measures and to keep the data until the calculations of the performance measures have been completed and validated.
2. Examine samples of data from the data repository and transaction files to assess completeness and accuracy.

3. Investigate the MCO's/PHP's processes to consolidate diversified files and extract required information from a performance measure repository or other data consolidation file.
4. Compare actual results of file consolidations or extracts to those which should have resulted according to documented algorithms or specifications.
5. Review procedures for coordinating the activities of multiple subcontractors to ensure accurate, timely, and complete integration of the data into the performance measure database.
6. Review computer program reports or documentation that reflect these vendor coordination activities and spot check to verify that no data necessary to performance measure reporting are lost or inappropriately modified during transfer.
7. If the MCO/PHP uses a data repository (or data warehouse), evaluate its structure and format and examine program flow charts and source codes to determine the extent to which the repository/warehouse enables and has enabled analyses and reports.
8. Assess the extent to which proper linkage mechanisms have been employed to join data from all necessary sources (e.g., identifying a member with a given disease/condition).
9. Examine and assess the adequacy of the documentation governing the performance measures production process, including MCO/PHP production activity logs, and MCO/PHP staff review of report runs.
10. Review documentation that confirms that prescribed data cutoff dates were followed.
11. If appropriate, request that the MCO/PHP demonstrate it has retained copies of files or databases used for performance measure reporting, in the event that results need to be reproduced.
12. Review documentation standards that assure that the performance measure reporting software program is properly documented with respect to every aspect of the reporting repository, including building, maintaining, managing, testing, and report production.
13. Review the MCO's/PHP's process and documentation to ensure that it complies with the MCO/PHP standards associated with the performance measure reporting program specifications, code review, and testing.

In addition, as needed, the EQRO should supplement the direct examination of IS policies, procedures, and data with interviews of MCO/PHP personnel. MCO/PHP personnel who can potentially provide helpful information include: the Director of Health/Medical Information Systems, system programmers or operators, and selected sub-contractors. An Interview Guide and suggested questions to ask during these interviews are located at ATTACHMENT IV, *Guide for Interviews of MCO/PHP Personnel Concerning Data Integration and Control.*

The EQRO should document all findings with respect to the adequacy of the MCO's/PHP's data integration and control procedures on a worksheet such as that found in ATTACHMENT V, *Data Integration and Control Findings - Documentation Worksheet.*

ONSITE ACTIVITY 2: Assess documentation of data and processes used to calculate and report performance measures.

The MCO/PHP should have documentation of all steps undertaken in the production of the State-specified performance measures, including documentation of: 1) the collection of data from various sources (e.g., membership, enrollment, provider, claims, or encounter files; medical records; laboratory or pharmacy records); 2) steps taken to integrate the required data into a performance measure data set or repository; and 3) procedures or programs to query the data set/repository to identify denominators, generate appropriate samples, determine numerators, and apply proper algorithms to the data in order to produce valid and reliable performance measures.

During this activity, *for each measure to be validated*, the EQRO will:

1. Review performance measurement plans and policies to assess the extent to which they include:

   - data file and field definitions;
   - maps to standard coding if not used in original data collection; and
   - statistical testing of results, and any corrections or adjustments made after processing.

2. Examine documentation (which may be either a schematic diagram or in narrative form) of programming specifications to ensure that documentation exists for at least the following information:

   - a project or measurement plan, including work flow.
   - all data sources; including external data (whether from a vendor, public registry, or other outside source) and any prior years' data (if applicable).
   - documentation of the original universe of data that includes record-level patient identifiers that can be used to validate entire programming logic for creating denominators, numerators, and samples.
   - detailed medical record review methods and practices, including the qualifications of medical record review supervisor and staff; reviewer training materials; audit tools used, including completed copies of each record-level reviewer determination; all case-level critical performance measure data elements used to determine a positive or negative event or exclude a case from same; and inter-rater reliability testing procedures and results.
   - detailed computer queries, programming logic, or source codes used to create all denominators, numerators, and samples (if applicable to the measure). This

includes the processes for identifying the population or sample for the denominator and/or numerator for each measure. If sampling is used, this includes a description of sampling techniques and documentation that samples used for baseline and repeat performance measurements were chosen using the same sampling frame and methodology.

- documentation of calculation for changes in performance from previous periods (if applicable) including statistical tests of significance.

The EQRO will need to refer to the specifications for each measure that were developed by the EQRO during Pre-Onsite activities (illustrated in ATTACHMENT I). A list of the documentation to be reviewed is located at ATTACHMENT VI, *Data and Processes Used to Calculate and Report Performance Measures - Documentation Review Worksheet.* In addition, as needed, the EQRO will interview the Director of Health/Medical Information Systems, system programmers or operators, and the Director of Quality Improvement or other MCO/PHP personnel to supplement this information, facilitate demonstrations of performance measurement processes, and provide the answers to questions such as the following:

1. How are policies governing documentation of data requirements for performance measurement, (e.g., data file and field definitions, mapping between standard and non-standard codes) updated and enforced? Who is responsible for this?

2. How are programming specifications for plan level performance measures documented? Who is responsible for this?

3. Are the documentation processes up to date?

The results of the EQRO's review of the MCO's/PHP's documentation of data and processes used to prepare and submit performance measures should be recorded on a form such as that found as ATTACHMENT VII: *Data and Processes Used to Calculate and Report Performance Measures - Documentation Worksheet.*

ONSITE ACTIVITY 3: Assess processes used to produce denominators.

The fundamental question to be answered by validating the calculation of the denominator(s) of performance measures is to what extent the MCO/PHP used the appropriate data (including linked data from separate data sets) to identify the entire at-risk population. The "appropriate data" will vary from measure to measure, depending on criteria such as age, sex, diagnosis, or procedure, and may be adjusted to exclude certain patients for reasons identified in the specifications established by the State for calculating the measure. Also, in some cases, the MCO/PHP may have to estimate portions of the population, such as newborns, who cannot always be readily and fully counted. In such cases, the EQRO should confirm that the methodology used for such estimations is valid. In conducting this activity, the EQRO will need to refer to the State's specifications for each measure as noted by the EQRO during Pre-Onsite activities and as illustrated in ATTACHMENT I.

During this activity, *for each performance measure calculated by the MCO/PHP and chosen to be included in the validation activity*, the EQRO will assess the extent to which:

1. all members who were eligible to receive the specified services under study were included in the initial population from which the final denominator was produced. This "at risk" population will include both members who received the services, as well as those who did not. This same validation activity applies to provider groups, or other relevant populations identified in the specifications of each performance measure.
2. programming logic or source codes which identify, track, and link member enrollment within and across product lines (e.g., Medicare and Medicaid), by age and gender, as well as through possible periods of enrollment and disenrollment, have been appropriately applied according to the specifications of each performance measure. This is determined by evaluating the extent to which:
    - calculations of continuous enrollment criteria were correctly carried out and applied to each measure (if applicable).
    - the MCO/PHP used appropriate mathematical operations to determine patient age or range.
    - the MCO/PHP can identify the variable(s) that code the member's sex in every file or algorithm, and that the MCO/PHP can explain what classification is carried out if neither of the required codes is present.
3. the MCO/PHP has correctly calculated member months and member years, if applicable to the performance measure.
4. the MCO/PHP has properly evaluated the completeness and accuracy of any codes used to identify medical events, such as diagnoses, procedures, or prescriptions, and that these codes have been appropriately identified and applied as specified in each performance measure.

5. time parameters required by the performance measure specifications are followed (e.g., cut-off dates for data collection, counting 30 calendar days after discharge from a hospital).
6. performance measure specifications or definitions were followed in excluding members from a denominator. For example, if a measure relates to receipt of a specific service, the denominator may need to be adjusted to reflect instances in which the patient refuses the service or the service is contraindicated.
7. systems or methods used by the MCO/PHP to estimate populations when they cannot be accurately or completely counted (e.g., newborns) are valid.

Policies, procedures, data, and information to be reviewed in conducting these activities are listed in ATTACHMENT VIII. Information obtained from a review of these policies, procedures, data, and information should be supplemented and confirmed, as needed, though interviews with MCO/PHP personnel, including: the Director of Health/Medical Information Systems, system programmers or operators, and selected sub-contractors. Suggested questions to be asked are located in ATTACHMENT IX.

The findings of the EQRO's documentation review, interviews and any needed demonstrations of processes should be documented on a *Denominator Validation Findings - Reviewer Worksheet,* such as that located at ATTACHMENT X.

ONSITE ACTIVITY 4: Assess processes used to produce numerators.

The focus of numerator validation is on determining whether the MCO/PHP has correctly identified and evaluated qualifying medical events (e.g., diagnoses, procedures, and prescriptions) in order to include appropriate events in the numerator of the performance measure. These "medical events" may be identified through membership/enrollment data, claim/encounter data, and/or provider data. They may also be identified through data extracted from medical records, or through a combination of both administrative data and medical record abstraction, i.e., the "hybrid" methodology.

As with denominators, accurate and complete data collection is vital to this element of performance measure calculation. For measures that include sampling in the methodology, the entire at-risk population must have an equal chance to be included in the numerator. For some measures, particularly those frequently focused on women and children in the Medicaid population, the member may have received the specified service outside of the MCO/PHP provider base (e.g., children receiving immunizations through public health services or schools), so an effort must be made to include these events in the numerator.

If either medical record review or the hybrid methodology is used to calculate the performance measure, the EQRO will need to review a sample of medical records which are identified as having been included in the sample drawn by the MCO/PHP. Following specific rules and guidelines, the EQRO will determine the extent to which data obtained from medical records and noted as being part of the numerator results can be confirmed during medical record review validation activities.

During this activity, *for each performance measure calculated by the MCO/PHP and chosen to be included in the validation activity*, the EQRO will assess the extent to which:

1. the MCO/PHP has used the appropriate data, including linked data from separate data sets, to identify the entire at-risk population that meets the specified criteria for inclusion in the numerator.
2. the MCO/PHP has adopted and followed procedures to capture data for those performance measures which could be easily under-reported due to the availability of services outside the MCO/PHP.
3. the MCO's/PHP's use of codes to identify medical events (such as diagnoses, procedures, prescriptions, etc.) are complete, accurate, and specific in correctly describing what has transpired and when. In particular, the EQRO will assess the extent to which these codes were correctly evaluated when classifying members for inclusion or exclusion in the numerator.
4. the MCO/PHP has avoided or eliminated all double-counted members or numerator events.
5. any non-standard codes used by the MCO/PHP are mapped to standard codes in a manner that is consistent, complete, and reproducible. The EQRO will assess this through a review of the programming logic or a demonstration of the program.
6. the MCO/PHP has adhered to any time parameters required by the specifications of the performance measure (i.e., that the measured event occurred during the time period specified or defined in the performance measure).
7. medical record reviews and abstractions have been carried out in a manner that facilitates the collection of complete, accurate, and valid data by ensuring that:
    - record review staff have been properly trained and supervised for the task.
    - record abstraction tools require the appropriate notation that the measured event occurred.
    - record abstraction tools require notation of the results or findings of the measured event (if applicable).
8. data included in the record extract files are consistent with data found in the medical records for a sample of medical records for applicable performance measures.
9. the process of integrating administrative data and medical record data for the purpose of determining the numerator is consistent and valid.

Policies, procedures, data, and information to be reviewed in conducting these activities are listed in ATTACHMENT XI. These activities will need to be carried out with respect to each performance measure calculated by the MCO/PHP and included in the EQRO validation activities. Because of this, the EQRO will need to refer to the specifications for each measure that were noted by the EQRO during Pre-Onsite activities as illustrated in ATTACHMENT I. In addition, for at least three of the performance measures calculated via medical record review or hybrid methodology, the EQRO will need to validate the results of the medical record review for 30 enrollees who were found to meet numerator requirements for each of the three or more measures. Procedures and sample tools for validating medical record review findings are included as ATTACHMENT XII.

Information obtained from a review of policies, procedures, data, and information should be supplemented or confirmed, as needed, though interviews with MCO/PHP personnel, including: the Director of Health/Medical Information Systems, system programmers or operators, and selected sub-contractors. Suggested questions are the same as those asked with respect to denominators and are located at ATTACHMENT IX.

The findings of the EQRO's documentation review, interviews, any needed demonstrations of processes, and validation of medical record review should be documented on a *Numerator Validation Findings - Reviewer Worksheet* such as that located at ATTACHMENT XIII.

ONSITE ACTIVITY 5: Assess the sampling process (for measures NOT calculated through administrative data).

The basic task in validating the sampling methodology is determining whether the sample validly reflects: 1) the performance of all practitioners and providers who serve Medicaid enrollees and whose activities are the subject of the performance measure; and 2) the care given to the entire population (including special populations with complex care needs) to which the performance measure is relevant.

As in the previous activity of validating the population included in a denominator, the sampling methodology employed should not exclude any population subgroups to which the topic area and performance measure apply. For example, when studying well child care, an MCO's/PHP's sample should not exclude children with special health care needs whose primary care provider is a specialist other than a pediatrician or family practitioner.

During this activity, the EQRO will assess the extent to which:

1. the sampling methodology used by the MCO/PHP produced an unbiased sample which is

representative of the entire at-risk population.

2. each relevant enrollee or provider had an equal chance of being selected; no enrollees were systematically excluded from the sampling.
3. the MCO/PHP followed the specifications set forth by the State for the performance measure regarding the treatment of sample exclusions and replacements and, if any activity took place involving replacements of or exclusions from the sample, the MCO/PHP kept adequate documentation of that activity.
4. each provider serving a given number of enrollees had the same probability of being selected as any other provider serving the same number of enrollees.
5. the MCO/PHP examined its sampled files for bias and if any bias was detected, the MCO/PHP is able to provide documentation that describes efforts taken to correct it.
6. the sampling methodology treated all measures independently and there is no correlation between drawn samples. (This is not intended to be a validation of the prescribed sampling methodology included in the performance measure specifications, because the assumption is that it is a valid methodology. The EQRO validation efforts will focus on the MCO's/PHP's implementation of that sampling methodology to assess the extent to which it has correctly followed the sampling specifications.)
7. relevant members or providers who were not included in the sample for the baseline measurement have the same chance of being selected for the follow-up measurement as those who were included in the baseline.
8. the MCO/PHP has policies, procedures, and documentation that files from which the samples were drawn are maintained so that if the sample must be re-drawn, or replacements made, the original population is intact.
9. the sample selected conforms to the methodology set forth in the performance measure specifications and the sample is representative of the entire population.
10. sample sizes meet the requirements of the performance measure specifications.
11. the MCO/PHP appropriately handled the documentation and reporting of the measure if the requested sample size exceeds the population size.
12. the MCO/PHP properly oversampled in order to accommodate potential exclusions.
13. the MCO/PHP followed proper substitution methodology in medical record review (for measures using the hybrid methodology or medical record review).
    - substitution applied only to those members who met the exclusion criteria detailed in the performance measure specifications.
    - substitutions were made for properly excluded records and the percentage of substituted records was documented.

Policies, procedures, data, and information to be reviewed in conducting these activities are listed in ATTACHMENT XIV. These activities need to be carried out with respect to each performance measure that was calculated using a sample. Because of this, the EQRO will need to refer to the "List of Performance Measures Calculated by the MCO/PHP" (TABLE 3) and the

specifications for each measure that were noted by the EQRO during Pre-Onsite activities as illustrated in ATTACHMENT I.

Information on sampling obtained from a review of policies, procedures, data, and information should be supplemented and confirmed, as needed, though interviews with MCO/PHP personnel, such as: the Director of Health/Medical Information Systems, system programmers or operators, and selected sub-contractors. Suggested questions to ask are those previously identified and included as ATTACHMENT IX. Validation findings regarding sampling should be documented on a worksheet such as that found as ATTACHMENT XV.

ONSITE ACTIVITY 6: Assess submission of required performance measure reports to the State.

Once the MCO/PHP calculates the required performance measures, it must report them to the State in the manner prescribed by the State. This includes reporting the measures in a proper format, whether through the use of a hardcopy "shell" report, in an electronic medium and format, or some combination of both. During the Pre-Onsite phase of the review, the EQRO familiarized itself with the State's format and reporting requirements for the MCO's/PHP's performance measures. During this activity, the EQRO will assess whether measures were reported to the State in the manner and form prescribed by the State. These activities will need to be carried out with respect to each performance measure to be calculated by the MCO/PHP. Because of this, the EQRO will need to refer to the reporting specifications for all of the measures that were noted by the EQRO during Pre-Onsite activities as documented in TABLE 1.

To assess the submission of required performance measure reports to the State, the EQRO will review:

- procedures for submitting reports that meet State requirements (e.g., specified electronic format, supporting documentation, timing); and

- documentation that procedures for properly submitting required reports to State were implemented appropriately.

The extent to which the MCO/PHP reported the calculated performance measures to the State in the manner and form prescribed by the State should be documented in the EQRO's report to the State.

POST-ONSITE ACTIVITIES

Objectives for Post-Onsite Activities:

The EQRO will evaluate all gathered information and submit a report on its validation findings to the State following either Option 1 or Option 2 below.

OPTION 1: The EQRO submits its report of validation findings to the State after review by the MCO/PHP for any factual errors or omissions.

OPTION 2: The EQRO submits a final report to the State after providing the MCO/PHP with the opportunity to make corrections to performance measures in response to preliminary EQRO findings. This would occur as follows:

- The EQRO submits to the MCO/PHP a preliminary report detailing areas of concern and suggested methods for correction.
- After allowing the MCO/PHP to correct (as practical) any problems in calculating or reporting performance measures that were identified in the preliminary report, the EQRO re-validates selected performance measures and the measurement processes.
- The EQRO again evaluates gathered information and prepares a final report for the State.
- The EQRO submits its report of validation findings to the State.

POST-ONSITE ACTIVITY 1: Determine preliminary validation findings for each measure.

Once the EQRO concludes its onsite activities, it aggregates the validation activity findings for each performance measure. This involves review and analysis of findings and worksheets produced for each performance measure selected for validation and for the MCO's/PHP's IS as a result of Pre-Onsite and Onsite activities. In particular, these include:

- Completed performance measure validation worksheets for each performance measure to be validated (as in ATTACHMENT I) in conjunction with the Denominator Validation Findings (ATTACHMENT X) and Numerator Validation Findings (ATTACHMENT XIII).

- For measures calculated through medical record review, including the hybrid methodology, the completed *Medical Record Review Validation Tool* (ATTACHMENT XII).

- Findings regarding the MCO's/PHP's data integration and control procedures (ATTACHMENT V); and

- Sampling validation findings (ATTACHMENT XV).

The report of preliminary validation findings identifies any areas of concern for each of the performance measures that were validated by the EQRO and makes suggestions for improvement. In particular, the report indicates precisely which elements of the plan-level performance measures were invalid (if any). This information provides the MCO/PHP with specific targets for correction and a tool that can be used to focus MCO/PHP personnel on the changes necessary to improve the production process. In addition to communicating in writing, the EQRO may participate in meetings with key MCO/PHP personnel responsible for the calculation and reporting of performance measures.

Once the EQRO has submitted its preliminary findings to the MCO/PHP, there are two courses of action that the State may have its EQRO pursue with respect to allowing the MCO/PHP to respond to the EQRO's preliminary findings:

OPTION 1: The MCO/PHP may offer comments and documentation to support correction of factual errors and omissions in the EQRO's preliminary report; or

OPTION 2: The MCO/PHP would be allowed to recalculate performance measures based on the findings of the EQRO. The EQRO would then revalidate the revised performance measure(s).

Allowing MCOs/PHPs to recalculate measures provides States and Medicaid beneficiaries with a greater amount of accurate information on MCO/PHP performance. However, this option requires greater time and financial resources on the part of the States, EQROs and MCOs/PHPs. If Option 2 is chosen by the State, depending on the extent of the corrections necessary or assistance that the MCO/PHP needs to improve its performance measure production processes, the EQRO schedules a time to re-visit the MCO/PHP as soon as practical, in order to re-evaluate the performance measures before they are reported to the State. This re-evaluation follows the same format and activities as the initial onsite visit, except that the EQRO may focus only on those activities that were found to be problematic during the first validation effort. The EQRO will use worksheets and

tools that are identical to those used in the first onsite visit; any areas not re-reviewed should be noted accordingly.

Once Option 1 or Option 2 is completed, and the MCO's/PHP's comments or revised performance measures validation findings have been appropriately incorporated into the validation findings, the EQRO will submit its findings to the State.

POST-ONSITE ACTIVITY 2: Submission of validation report to State.

A State may choose one of two options for determining the validity of each of the MCO's/PHP's performance measures:

OPTION 1: The EQRO submits all working papers and a summary of findings to the State. The State would make the final decision on the validity of each performance measure and compliance with reporting requirements.

OPTION 2: The EQRO references a clearly defined set of decision rules for determining if each of the MCO's/PHP's reported performance measures were sufficiently valid; i.e., accurate and complete. In this instance, the State would still receive the final report and all supporting documentation and would have the final authority to determine acceptable validity and compliance with State conditions.

Regardless of which option a State chooses, the decision rules for compliance should be uniform across MCOs/PHPs within the State. Because States may differ substantially regarding their requirements for Medicaid MCOs/PHPs, this protocol provides a framework which the State can use with its own specific "percentage rules" or requirements for determining validity of performance measures.

The State will need to specify the level of bias that is permissible or allowable in the calculated performance measures in order for an MCO's/PHP's performance measure to be considered "valid measures." Levels currently in use within the industry range from 5 percent to 10 percent for commercial and/or Medicare product lines. Bias in reported rates can result from many factors; e.g., sampling bias, coding errors, and in particular, problems with in complete data. For example, is a measure calculated using a data set that is known to be only 50 percent complete a valid measure of performance? What about a measure using data that is 75 or 85 percent complete? Because there is currently no generally accepted standard for data completeness in the industry, each State must specify the extent of data incompleteness it allows in measures before the measure is considered to be "not valid." Data completeness was addressed as part of the *Performance Measure Validation Worksheet* for each performance measure as illustrated in

ATTACHMENT I. The EQRO will need to make an estimate about the cumulative affect of all sources of bias on the validity of the performance measure.

The format for the final report should follow the format specified by the State, but should include the following elements:

- a list of measures for validation. (It is possible that an MCO/PHP would be unable to report on all required measures for reasons that would be explained to the EQRO and the State.)
- a description of the onsite validation activities including: 1) a list of the EQRO's team members 2) a description of the pre-audit strategy and considerations, 3) a description of the technical methods of data collection and analysis used by the EQRO, 4) a list of interviewees, and 5) any other facts relevant to the onsite process.
- details and results of the validation process for each performance measure, including any medical record abstractions conducted.
- as directed by the State, the validation findings for each performance measure included in the EQRO validation activities.
- as directed by the State, analysis and findings with respect to the MCO's/PHP's data integration and control procedures and performance measure calculation documentation.

In addition to reporting to the State on the extent to which the MCO/PHP correctly implemented processes to calculate and report individual plan-level performance measures, other aspects of MCO/PHP performance measurement that the State may want the EQRO to address in its final report include the extent to which the MCO/PHP has:

- adequate data integration and control necessary for accurate reporting of performance measures; and

- complete and accurate documentation of data and processes used to calculate and report performance measures.

In addition, the EQRO might also be asked to submit all of its worksheets and tools as supporting documentation to the report.

END OF PROTOCOL

ATTACHMENT I

Example of a Completed Performance Measure Validation Worksheet[4]

Below is an example of a completed, customized performance measure validation worksheet similar to what an EQRO would prepare prior to its onsite visit. This worksheet assumes that the State has adopted the HEDIS methodology for this performance measure. One of the following scoring designations must be checked for each audit element:

MET: The MCO's/PHP's measurement and reporting process was fully compliant with State specifications.

NOT MET: The MCO's/PHP's measurement and reporting process was not compliant with State specifications. This designation should be used for any audit element that deviates from the State specifications, regardless of the impact of the deviation on the final rate. All audit elements with this designation must include explanation of the deviation in the comments section.

N/A: The audit element was not applicable to the MCO's/PHP's measurement and reporting process.

PERFORMANCE MEASURE TO BE VALIDATED: BREAST CANCER SCREENING

METHODOLOGY FOR CALCULATING MEASURE: (Check one)	ADMINISTRATIVE ____	MEDICAL RECORD REVIEW____	HYBRID____

AUDIT ELEMENTS	AUDIT SPECIFICATIONS	MET	NOT MET	N/A	COMMENTS
DENOMINATOR					
1. Population	• Medicaid population appropriately segregated from commercial / Medicare. • Population defined as effective Medicaid enrollment as of Dec. 31, 2000. • Dual Medicaid and Medicare beneficiaries are included.				
2. Geographic Area	• Includes only those Medicaid enrollees served in the MCO's/PHP's reporting area.				

[4]This worksheet is adapted from the IPRO tools used in the audit of the 1997 Medicare HEDIS data.

AUDIT ELEMENTS	AUDIT SPECIFICATIONS	MET	NOT MET	N/A	COMMENTS
3. Age & Sex	• Members aged 52-69 as of 12/31/00 (i.e., born between 1/1/31 & 12/31/48) • Only females selected				
4.Enrollment Calculation	• Were members of plan on 12/31/00 • Were continuously enrolled from 1/1/99 to 12/31/00 with one break per year of up to 45 days allowed. • Switches between populations (Medicare, Medicaid, and commercial) were not counted as breaks.				
5.Data Quality	• Based on the IS assessment findings, are any of the data sources for this denominator inaccurate?				
6.Proper Exclusion Methodology in Administrative Data (If no exclusions were taken, check N/A)	• Only members with contraindications or data errors were excluded. • Contraindication exclusions were performed according to current State specifications. • Only the codes listed in specifications as defined by State were counted as contraindications.				
NUMERATOR					
7. Administrative Data: Counting Clinical Events	• Standard codes listed in State specifications or properly mapped internally developed codes were used. (Intended to reference appropriate specifications as defined by State.) • Members were counted only once; double counting of mammograms was prevented.				
8. Medical Record Review Documentation Standards	• Record abstraction tool required notation of the date that the mammogram was performed. • Record abstraction tool required notation of the mammogram result or finding.				
9. Time Period	• Mammogram performed on or between 1/1/99 & 12/31/00.				
10.Data Quality	• Properly identified enrollees.				

	• Based on the IS assessment findings, were any of the data sources used for this numerator inaccurate?				

SAMPLING	IF ADMINISTRATIVE METHOD WAS USED, CHECK "N/A" FOR AUDIT ELEMENTS 12, 13, AND 14..				
AUDIT ELEMENTS	**AUDIT SPECIFICATIONS**	**MET**	**NOT MET**	**N/A**	**COMMENTS**
12. Unbiased Sample	• As specified in State specifications, systematic sampling method was utilized.				
13. Sample Size	• After exclusions, sample size is equal to 1) 411, 2) the appropriately reduced sample size, which used the current year's administrative rate or preceding year's reported rate, or 3) the total population.				
14. Proper Substitution Methodology in Medical Record Review (If no exclusions were taken, check NA)	• Only excluded members for whom medical record review revealed 1) contraindications that correspond to the codes listed in appropriate specifications as defined by State or 2) data errors. • Substitutions were made for properly excluded records and the percentage of substituted records was documented.				

ADDITIONAL QUESTIONS

QUESTIONS	YES	NO
Were members excluded for contraindications found in the administrative data?		
Were members excluded for contraindications found during the medical record review?		
Were internally developed codes used?		
What range defines the impact of data incompleteness for this measure? (Check one.)		
0 - 5 percentage points		
>5 – 10 percentage points		
>10 – 20 percentage points		

>20 – 40 percentage points	
>40 percentage points	
Unable to Determine	
What is the direction of the bias? Check one: OVER-REPORTING _____ UNDER-REPORTING _____	
Upon what documentation is the above percentage based? (e.g., internal reports, studies, comparison to medical records, etc.	

VALIDATION FINDING

The validation finding for each measure is determined by the magnitude of the errors detected for the audit elements, not by the number of audit elements determined to be "NOT MET." Consequently, it is possible that an error for a single audit element may result in a designation of "NV" because the impact of the error biased the reported performance measure by more than *"x"* percentage points. Conversely, it is also possible that several audit element errors may have little impact on the reported rate and, thus the measure could be given a designation of "SC." The following is a list of the validation findings and their corresponding definitions:

FC = ***Fully Compliant***
Measure was fully compliant with State specifications.

SC = ***Substantially Compliant***
Measure was substantially compliant with State specifications and had only minor deviations that did not significantly bias the reported rate.

NV = ***Not Valid***
Measure deviated from State specifications such that the reported rate was significantly biased. This designation is also assigned to measures for which no rate was reported, although reporting of the rate was required.

NA = ***Not Applicable***
Measure was not reported because MCO/PHP did not have any Medicaid enrollees that qualified for the denominator.

AUDIT DESIGNATION	

ATTACHMENT II

Potential Documents and Processes for Review

In order to assess the MCO's/PHP's information system and the validity of reported performance measures, the EQRO will need to review a number of data sources and processes. The MCO/PHP should ensure that the following documents, data, and procedures are available to the EQRO for observation; the EQRO will use its discretion in selecting which ones to review.

Integration and Control of Data

- ❑ Procedures and standards for all aspects of the data repository (ies) used in the production of performance measures, including building, maintaining, managing, testing, and production of performance measures.
- ❑ Manuals covering application system development methodology, database development, and design and decision support system utilization.
- ❑ Control system documentation including flow charts and codes for backups, recovery, archiving, and other control functions.
- ❑ Procedures to consolidate information from disparate transaction files.
- ❑ Record and file formats and descriptions, for entry, intermediate, and repository files.
- ❑ Electronic formats and protocols.
- ❑ Electronic transmission procedures documentation.
- ❑ Processes to extract information from the repository(ies).
- ❑ Source code data entry, data transfer, and data manipulation programs and processes.
- ❑ Descriptive documentation for data entry, transfer, and manipulation programs and processes.
- ❑ If applicable, procedures for coordinating activities of multiple subcontractors in a way that safeguards the integrity of the performance measurement data.
- ❑ Samples of data from repository and transaction files to assess accuracy and completeness of the transfer process.
- ❑ Comparison of actual results from file consolidation and data abstracts to those which should have resulted according to documented algorithms.
- ❑ Documentation of data flow among vendors to assess the extent to which there has been proper implementation of procedures for coordinating activities to safeguard the integrity of the performance measure data.
- ❑ Documentation of data cutoff dates.
- ❑ Documentation of proper run controls and of staff review of report runs.

- ❑ Copies of files and databases used for performance measure calculation and reporting.
- ❑ Procedures governing production process for plan-level performance measures, including standards and schedules.

Collection, Calculation, and Documentation of Performance Measurements

- ❑ Policies which stipulate and enforce documentation of data requirements, issues, validation efforts, and results.
- ❑ A project or measurement plan for each performance measure.
- ❑ Documentation of programming specifications, including work flow, data sources, and uses which include diagrammatic or narrative descriptions.
- ❑ Documentation of the original universe of data that includes record-level patient identifiers that can be used to validate entire programming logic for creating denominators, numerators, and samples.
- ❑ Documentation of computer queries, programming logic, or source code used to create final denominators, numerators, and interim data files.
- ❑ Documentation that includes dated job log or computer run for denominators and numerators, with record counts for each programming step and iteration.
- ❑ Documentation of medical record review including: qualifications of medical record review supervisor and staff; reviewer training materials; audit tools used, including completed copies of each record-level reviewer determination; all case-level critical performance measure data elements used to determine a positive or negative event or exclude a case from same; and inter-rater reliability testing procedures and results.
- ❑ Documentation of results of statistical tests and any corrections or adjustments to data along with justification for such changes.
- ❑ Documentation of sources of any supporting external data or prior years' data used in reporting.
- ❑ Policies to assign unique membership ID that allows all services to be properly related to the specific appropriate enrollee, despite changes in status, periods of enrollment or disenrollment, or changes across product lines (e.g., Medicare and Medicaid).
- ❑ Procedures to identify, track, and link member enrollment by product line, product, geographic area, age, sex, member months, and member years.
- ❑ Procedures to track individual members through enrollment, disenrollment, and possible re-enrollment.
- ❑ Procedures to track members through changes in family status, changes in benefits or managed care type (if they switch between Medicaid coverage and another product within the same MCO/PHP).

- ❑ Methods to define start and cessation of coverage.
- ❑ Procedures to link member months to member age.
- ❑ Description of software or programming languages used to query each database.
- ❑ Description of software used to execute sampling sort of population files when sampling (systematic) is used.
- ❑ Member database.
- ❑ Provider data (including facilities, labs, pharmacies, physicians, etc.).
- ❑ Database record layout and data dictionary.
- ❑ Survey data.
- ❑ Policies to maintain files from which the samples are drawn in order to keep population intact in the event that a sample must be re-drawn, or replacements made.
- ❑ Computer source code or logic identifying specified sampling techniques, and documentation that the logic matches the specifications set forth for each performance measure, including sample size and exclusion methodology.
- ❑ Methods used for sampling for measures calling for hybrid data (combination of medical records and administrative data) or solely medical record review.
- ❑ Documentation assuring that sampling methodology treats all measures independently and that there is no correlation between drawn samples.
- ❑ Observation or documentation of procedures in which a biased sample was identified and corrected.
- ❑ Documentation of "frozen" or archived files from which the samples were drawn, and if applicable, documentation of the MCO's/PHP's process to re-draw a sample or obtain necessary replacements.
- ❑ For performance measures which are easily under-reported, procedures to capture data that may reside outside the MCO's/PHP's data sets.
- ❑ Procedures for mapping non-standard codes to standard coding to ensure consistency completeness, and reproducibility.
- ❑ Policies, procedures, and materials that evidence proper training, supervision, and adequate tools for medical record abstraction tasks. (May include medical record abstraction tools, training material, checks of inter-rater reliability, etc.)
- ❑ Procedures for assuring that combinations of record-review data with administratively determined data are consistent and verifiable.
- ❑ Evidence that MCO's/PHP's use of codes to identify medical events were correctly evaluated when classifying members for inclusion or exclusion in the numerator.
- ❑ Evidence that MCO/PHP has counted each member and/or event only once.

- ❑ Programming logic or demonstration that confirms that any non-standard codes used in determining the numerator have been mapped to a standard coding scheme in a manner that is consistent, complete, and reproducible.
- ❑ Programming logic or source code that identifies the process for integrating administrative and medical record data for numerator.
- ❑ Procedures for properly executing complex medical algorithms, such as claim-dependent events; events that require matching claims and pharmacy data; events that require matching visit codes; and events that require accurately identifying and computing multiple numerator events.
- ❑ Procedures for displaying denominator counts, numerator counts, precision levels, sums and cross-totals.
- ❑ Procedures for reporting small sample sizes (to be consistent with required methodology established by State).
- ❑ Programming logic and/or source code for arithmetic calculation of each measure.
- ❑ Review of reported measures to assess consistency of common elements (e.g., membership counts, number of pregnancies and births, etc.).
- ❑ Programming logic and/or source code for measures with complex algorithms, to ensure adequate matching and linkage among different types of data.
- ❑ Documentation showing confidence intervals of calculations when sampling methodology used.
- ❑ Documentation showing calculation of levels of significance of changes.
- ❑ Procedures for submitting reports that meet State requirements (e.g., specified electronic format, supporting documentation, timing).
- ❑ Documentation that procedures for properly submitting required reports to State were implemented appropriately.

ATTACHMENT III

IS Data Integration and Control - Documentation Review Worksheet

Documentation	Reviewed	Not Reviewed	Comments
Procedures and standards for all aspects of the data repository (ies), including building, maintaining, managing, testing, and production of performance measures.			
Manuals covering application system development methodology, database development and design, and decision support system utilization.			
Control system documentation including flow charts and codes for backups, recovery, archiving, and other control functions.			
Procedures to consolidate information from disparate transaction files to support performance measurement.			
Record and file formats and descriptions, for entry, intermediate, and repository files.			
Electronic formats and protocols.			
Electronic transmission procedures documentation.			
Processes to extract information from the repository to produce intended result.			
Source code data entry, data transfer, and data manipulation programs and processes.			
Descriptive documentation for data entry, data transfer, data manipulation programs and processes.			
If applicable, procedures for coordinating activities of multiple subcontractors in a way that safeguards the integrity of the performance measure data.			

Samples of data from repository and transaction files to assess accuracy and completeness of the transfer process.			
Comparison of actual results from file consolidation and data abstracts to those which should have resulted according to documented algorithms.			
Documentation of data flow among vendors to assess the extent to which there has been proper implementation of procedures for coordinating activities to safeguard the integrity of the performance measure data.			
Documentation of data cutoff dates.			
Documentation of proper run controls and of staff review of report runs.			
Copies of files and databases used for performance measure calculation and reporting.			
Procedures governing production process of plan-level performance measures, including standards and schedules.			

In the comments section, be sure to address the following:

Compare samples of data in the repository to transaction files. Are any members, providers, or services lost in the process?

Is the required level of coding detail maintained (e.g., all significant digits, primary and secondary diagnoses remain)?

If the plan uses a performance measure repository, review the repository structure. Does it contain all the key information necessary for performance measure reporting?

How does the MCO/PHP test the process used to create the performance measure reports?

Does the MCO/PHP use any algorithms to check the reasonableness of data integrated to report the plan-level performance measures

Examine report production logs and run controls. Is there adequate documentation of the performance measure report generation process? How are report generation programs documented? Is there a type of version control in place?

ATTACHMENT IV

Guide for Interviews of MCO/PHP Personnel Concerning Data Integration and Control

Background Information:

Name of MCO/PHP:

Date:

Location:

Year of First Medicaid Enrollment:

Year of First Plan-Level Performance Report:

Auditors:

Names and Titles of Individuals Interviewed:

Has the MCO/PHP previously undergone an audit of its State performance measure reporting process? If so, when did the audit take place and who conducted it?

Other general issues:

Interview Questions:

1. How is performance measure data collection accomplished:

   - By querying the applicable information system on-line?

   - By using extract files created for analytical purposes? If so, how frequently are the files updated? How do they account for claim/encounter submission and processing lags? How is the file creation process checked for accuracy?

   - By using a separate relational database or data warehouse? If so, is this the same system all other reporting is produced from? Are reports created from a vendor software product? If so, how frequently are the files updated? How are reports checked for accuracy?

2. Review the procedure(s) for consolidating claims/encounter, member, provider, and other data necessary for performance reporting (whether it be into a relational database or file extracts on a measure-by-measure basis).

   - How many different sources of data are merged together to create reports?

   - What control processes are in place to ensure that this merger is accurate and complete?

3. How does the plan test the process used to create the performance measure reports?

4. Does the plan use any algorithms to check the reasonableness of data integrated to report the plan-level performance measures

5. Are performance measurement reporting programs reviewed by supervisory staff?

6. Is there an internal backup for performance measure programmers – do others know the programming language and the structure of the actual programs? Is there documentation?

7. How does the plan prevent loss of claim and encounter data when systems fail?

8. What administrative data backup systems are in place?

9. What types of authorization are required to be able to access claims/encounter, provider, membership, and performance measure repository data?

Describe Documentation Review and Demonstrations Provided:

ATTACHMENT V

Data Integration and Control Findings - Documentation Worksheet

Data Integration and Control Element	Met	Not Met	N/A	Comments
Accuracy of data transfers to assigned performance measure repository.				
• MCO/PHP processes accurately and completely transfer data from the transaction files (e.g., membership, provider, encounter/claims) into the repository used to keep the data until the calculations of the performance measures have been completed and validated.				
• Samples of data from repository are complete and accurate.				
Accuracy of file consolidations, extracts, and derivations.				
• MCO's/PHP's processes to consolidate diversified files, and to extract required information from the performance measure repository are appropriate.				
• Actual results of file consolidations or extracts were consistent with those which should have resulted according to documented algorithms or specifications.				
• Procedures for coordinating the activities of multiple subcontractors ensure the accurate, timely, and complete integration of data into the performance measure database.				
• Computer program reports or documentation reflect vendor coordination activities, and no data necessary to performance measure reporting are lost or inappropriately modified during transfer.				
If the MCO/PHP uses one, the structure and format of the performance measure data repository facilitates any required programming necessary to calculate and report required performance measures.				
• The repository's design, program flow charts, and source codes enable analyses and reports.				
• Proper linkage mechanisms have been employed to join data from all necessary sources (e.g., identifying a member with a given disease/condition).				

Assurance of effective management of report production and of the reporting software.				
• Examine and assess the adequacy of the documentation governing the production process, including MCO/PHP production activity logs, and MCO/PHP staff review of report runs.				
• Prescribed data cutoff dates were followed.				
• The MCO/PHP has retained copies of files or databases used for performance measure reporting, in the event that results need to be reproduced.				
• Review documentation standards to determine the extent to which the reporting software program is properly documented with respect to every aspect of the performance measurement reporting repository, including building, maintaining, managing, testing, and report production.				
• Review the MCO's/PHP's processes and documentation to determine the extent to which they comply with the MCO/PHP standards associated with reporting program specifications, code review, and testing.				

ATTACHMENT VI

Data and Processes Used to Calculate and Report Performance Measures - Documentation Review Worksheet

Documentation	Reviewed	Not Reviewed	Comments
Policies which stipulate and enforce documentation of data requirements, issues, validation efforts and results.			
Procedures for displaying denominator counts, numerator counts, precision levels, sums, and cross-totals.			
Procedures for reporting small sample sizes (to be consistent with required methodology established by State).			
Review of reported measures to assess consistency of common elements (e.g., membership counts, number of pregnancies and births, etc.).			
For each measure:			
Programming logic and/or source code for arithmetic calculation.			
A project or measurement plan, including work flow.			
Documentation of programming specifications and data sources.			
Documentation of the original universe of data including record-level patient identifiers that can be used to validate entire programming logic for creating denominators, numerators, and samples.			
Documentation of computer queries, programming logic, or source code used to create denominators, numerators, and interim data files.			
Documentation that includes dated job log or computer run for denominators and numerators, with record counts for each programming step and iteration.			

Documentation	Reviewed	Not Reviewed	Comments
Documentation of medical record review for each measure, as appropriate, including: qualifications of medical record review supervisor and staff; reviewer training materials; audit tools used, including completed copies of each record-level reviewer determination; all case-level critical performance measure data elements used to determine a positive or negative event or exclude a case from same; and inter-rater reliability testing procedures and results.			
Documentation of results of statistical tests and any corrections or adjustments to data along with justification for such changes for each measure, as appropriate.			
Documentation showing calculation of levels of significance of changes for each measure.			
Documentation (for each performance measure, as appropriate) showing confidence intervals of calculations when sampling methodology used.			
Documentation of sources of any supporting external data or prior years' data used in reporting (for each performance measure, as appropriate).			

Describe Documentation Reviewed and Demonstrations Provided:

Data and Processes Used to Calculate and Report Performance Measures - Documentation Worksheet

Audit Element	Met	Not Met	N/A	Comments
Measurement plans and policies which stipulate and enforce documentation of data requirements, issues, validation efforts and results. These include:				
• Data file and field definitions used for each measure.				
• Maps to standard coding if not used in original data collection.				
• Statistical testing of results and any corrections or adjustments made after processing.				
Documentation of programming specifications (which may be either a schematic diagram or in narrative form) for each measure includes at least the following:				
• All data sources, including external data (whether from a vendor, public registry, or other outside source), and any prior years' data (if applicable).				
• Detailed medical record review methods and practices, including the qualifications of medical record review supervisor and staff; reviewer training materials; audit tools used, including completed copies of each record-level reviewer determination; all case-level critical performance measure data elements used to determine a positive or negative event or exclude a case from same; and inter-rater reliability testing procedures and results.				
• Detailed computer queries, programming logic, or source code used to identify the population or sample for the denominator and/or numerator				

Audit Element	Met	Not Met	N/A	Comments
• If sampling used, description of sampling techniques, and documentation that assures the reviewer that samples used for baseline and repeat measurements of the performance measures were chosen using the same sampling frame and methodology.				
• Documentation of calculation for changes in performance from previous periods (if applicable), including statistical tests of significance.				
• Data that are related from measure to measure are consistent (e.g., membership counts, provider totals, number of pregnancies and births).				
• Appropriate statistical functions are used to determine confidence intervals when sampling is used in the measure.				
• When determining improvement in performance between measurement periods, appropriate statistical methodology is applied to determine levels of significance of changes.				

Policies, Procedures, Data and Information Used to Produce Denominators: Review Worksheet

Policies, Procedures, Data, Information to be reviewed	Reviewed	Not Reviewed	Comments
Policies to assign unique membership ID that allows all services to be properly related to the specific appropriate enrollee, despite changes in status, periods of enrollment or disenrollment, or changes across product lines (e.g., Medicare and Medicaid).			
Procedures to identify, track, and link member enrollment by product line, product, geographic area, age, gender, member months, member years.			
Procedures to track individual members through enrollment, disenrollment, and possible re-enrollment.			
Procedures to track members through changes in family status, changes in employment or benefits or managed care type (if they switch between Medicaid coverage and another product within the same MCO/PHP).			
Methods to define start and cessation of coverage.			
Procedures to link member months to member age.			
Description of software or programming languages used to query each database.			
Programming logic and/or source code for arithmetic calculation of each measure.			
Programming logic and/or source code for measures with complex algorithms, to ensure adequate matching and linkage among different types of data.			
Member database.			
Provider data (including facilities, labs, pharmacies, physicians, etc.).			
Database record layout and data dictionary.			
Survey data.			

ATTACHMENT IX

QUESTIONS FOR ASSESSING PROCESSES USED TO PRODUCE DENOMINATORS AND NUMERATORS

1. If any part of your network/data/membership was excluded from a performance measure, how and why did you decide to exclude it?

2. Why did you select the reporting methodology (e.g., administrative, or hybrid) used to create each of the measures (where there was an option)?

3. Did you use the State technical specifications as the specifications for the programmers, or did your MCO/PHP write its own instructions/translations for the programmers?

4. Are there any manual processes used for calculating denominators and/or numerators? Are manual processes used for sampling?

5. Are any measures calculated by vendors? If yes, are they checked for accuracy? Please describe.

6. Do you have any concerns about the integrity of the information used to create any of the measures? Please describe.

7. Do you know of any deviations from performance measure specifications that were necessary because of data available or because of your plan's information systems capabilities?

Other issues.

Names of Individuals Interviewed:

Denominator Validation Findings - Reviewer Worksheet

Audit Element	Met	Not Met	N/A	Comments
For each of the performance measures, all members of the relevant populations identified in the performance measure specifications are included in the population from which the denominator is produced.				
All members who were eligible to receive the specified services were included in the initial population from which the final denominator was produced. This "at risk" population included both members who received the services, as well as those who did not. This same standard applies to provider groups or other relevant populations identified in the specifications of each performance measure.				
Adequate programming logic or source code exists to appropriately identify all "relevant" members of the specified denominator population for each of the performance measures.				
For each measure, programming logic or source code which identifies, tracks, and links member enrollment within and across product lines (e.g., Medicare and Medicaid), by age and sex, as well as through possible periods of enrollment and disenrollment, has been appropriately applied according to the specifications of each performance measure.				
Calculations of continuous enrollment criteria were correctly carried out and applied to each measure (if applicable).				
Proper mathematical operations were used to determine patient age or range.				
The MCO/PHP can identify the variable(s) that define the member's sex in every file or algorithm needed to calculate the performance measure denominator, and the MCO/PHP can explain what classification is carried out if neither of the required codes is present.				

Audit Element	Met	Not Met	N/A	Comments
Correct calculation of member months and member years.				
The MCO/PHP has correctly calculated member months and member years, if applicable to the performance measure.				
Completeness and accuracy of the codes used to identify medical events has been identified and the codes have been appropriately applied.				
The MCO/PHP has properly evaluated the completeness and accuracy of any codes used to identify medical events, such as diagnoses, procedures, or prescriptions, and these codes have been appropriately identified and applied as specified in each performance measure.				
Specified time parameters are followed.				
Any time parameters required by the specifications of the performance measure are followed (e.g., cut off dates for data collection, counting 30 calendar days after discharge from a hospital, etc.).				
Exclusion criteria included in the performance measure specifications have been followed.				
Performance measure specifications or definitions that exclude members from a denominator were followed. For example, if a measure relates to receipt of a specific service, the denominator may need to be adjusted to reflect instances in which the patient refuses the service or the service is contraindicated.				
Systems to estimate populations which cannot be accurately counted exist and are utilized when appropriate.				
Systems or methods used by the MCO/PHP to estimate populations when they cannot be accurately or completely counted (e.g., newborns) are valid.				

ATTACHMENT XI

Policies, Procedures, Data, and Information Used to Produce Numerators: Review Worksheet

Documentation	Reviewed	Not Reviewed	Comments
For performance measures which are easily under-reported, procedures to capture data that may reside outside the MCO/PHP's data sets.			
Procedures for mapping non-standard codes to standard coding to ensure consistency, completeness, and reproducibility.			
Policies, procedures, and materials that evidence proper training, supervision, and adequate tools for medical record abstraction tasks. (May include medical record abstraction tools, training material, checks of inter-rater reliability, etc.)			
Procedures for assuring that combinations of record-review data with administratively determined data are consistent and verifiable.			
MCO's/PHP's use of codes to identify medical events were correctly evaluated when classifying members for inclusion or exclusion in the numerator.			
Evidence that MCO/PHP has counted each member and/or event only once.			
Programming logic or demonstration that confirms that any non-standard codes used in determining the numerator have been mapped to a standard coding scheme in a manner that is consistent, complete, and reproducible.			
Programming logic or source code that identifies process for integrating administrative and medical record data for numerator.			
Programming logic and/or source code for arithmetic calculation of each measure.			
Programming logic and/or source code for measures with complex algorithms, to ensure adequate matching and linkage among different types of data.			

Describe documentation review and any demonstrations provided:

ATTACHMENT XI

ATTACHMENT XII

Medical Record Review Validation Tools

The purpose of medical record review validation is to verify the accuracy of the medical record review conducted by each MCO/PHP. For each of at least three measures for which the hybrid method or solely medical record review was used, the EQRO will validate the medical records of 30 enrollees found to meet numerator requirements. Only those members included in a hybrid or solely medical record review sample will be selected – the EQRO will not be conducting medical record audits to validate administrative data. Therefore, if an MCO/PHP used only administrative data for a particular measure, that measure will not be part of the medical record review validation process.

For each measure in which the hybrid method or solely medical record review was used, the EQRO will request a list of all of the members in the MCO's/PHP's medical record review sample. From that list the EQRO will identify a sample of 30 members who meet numerator requirements. MCOs/PHPs will then be asked to provide access to or copies of medical records so that the EQRO can verify that each member was appropriately included in the denominator and received the required numerator service(s). In cases where there are fewer than 30 numerator positives, the EQRO will review all records for that measure.

To provide sufficient time for each MCO/PHP to gather the required medical record documentation, the EQRO may direct the MCOs/PHPs to submit their lists of members in their hybrid sample twice - the first list as a preliminary submission and the second list as a final submission. Submitting a first list prior to completion of the medical record review process would allow an MCO/PHP additional time to retrieve medical record documentation. Soon after receipt of the first list, the EQRO will provide the MCO/PHP with the list of medical records for which documentation must be submitted. Only a portion of the 30 medical records for the validation sample will be included in the EQRO's first sample request list. The remainder of the 30 records will be selected from the final list. While the first submission of medical record review findings is optional, it is recommended.

The EQRO would accept the first list submission approximately one month prior to the scheduled audit. If an MCO/PHP chooses to submit a first list of medical records, it must still submit a final listing sufficiently in advance of the scheduled audit as directed by the EQRO. For each submission, MCOs/PHPs will need to identify all members for whom medical record review has been conducted and indicate which members have been found to be numerator positives through medical record review. The final list must reflect the MCO's/PHP's final medical record review findings, with members for whom a medical record was never found identified as not having met the numerator requirements.

No predetermined "passing" grade will be set for the medical record audit. Rather, onsite auditors will use the medical record review results to determine if the hybrid rate or solely medical record review rate, as a whole, is biased, and to what extent that bias affects the final reported rate for that measure. The EQRO will identify to the State what effects bias, as well as incomplete data, will have on the MCO's/PHP's calculation of the performance measure. For each of the evaluated measures auditors will determine the impact of the findings from the MRR validation process on the MCO's/PHP's Final Audit Designation.

Step 1: Calculation of the Medical Record Review Error Rate

The EQRO will review up to 30 records identified by the MCO/PHP as meeting numerator requirements (as determined through medical record review) for the measures audited. Records are randomly selected from the entire population of MRR numerator positives identified by the plan, as indicated on the MRR numerator listings submitted to the EQRO. If fewer than 30 medical records are found to meet numerator requirements, all records are reviewed. Administrative numerator positives are not included as part of this validation process. The EQRO will calculate a medical record review error rate for each performance measure calculated by the hybrid method or solely from medical record review as illustrated in TABLE 4, below:

TABLE 4: Summary of Medical Record Review (MRR) Reabstraction Findings:

Column A	Column B	Column C	Column D	Column E	Column F
Performance Measure	Number of MMR Positives Selected for Audit	Number of Medical Records Received	Number of Medical Records Found to be Compliant	Accuracy Rate (%) (D/B)	Error Rate (%) (100% - E)

Column A: Name of performance measure evaluated.

Column B: Total number of MRR numerator positive records reabstracted by EQRO as part of the medical record review validation process (i.e., 30, or the total population, if less than 30 MRR numerator positives were reported).

Column C: Total number of medical records submitted to EQRO, as part of the medical record review validation process (i.e., should be equal to Column B or less than Column B if one or more records were not submitted on time).

Column D: Total number of medical records reviewed by EQRO and identified as meeting numerator requirements.

Column E: Accuracy rate - percent of records selected for audit that were identified as meeting numerator requirements (Column D/Column B).

Column F: Error rate - percent of records selected for audit that were identified as not meeting numerator requirements (100% - Column E).

Step 2: Determining the Potential Impact of MRR Reabstraction Findings On Final Audit Designations

The next step in MRR validation is to determine whether any medical record review errors significantly biased the final reported rate for a given performance measure. To make this determination, the EQRO, as directed by the State, should develop and follow decision rules such as the following:

Sample Decision Rules:

Error Rate of 10 Percent or Less: If the error rate (TABLE 4, column F) is 10 percent or less, then the measure automatically passes the medical record review validation. The Final Audit Designation is then determined based on the auditors' findings from the Information Systems Capabilities Assessment (ISCA) conducted as Pre-Onsite activity 3 and Onsite Activity 1. As long as no errors leading to significant bias are discovered during the other components of the audit process, the final rate is considered as having met the validation standards.

Error Rate of Greater than 10 Percent: If the error rate (TABLE 4, column F) is greater than 10 percent, then the auditors determine the impact of the MRR validation findings on the final reported rate for the measure. For each of the measures under review, auditors evaluate the impact of the plan's MRR processes on its final reported rate by extrapolating the findings from the audited medical record sample to the universe of all MRR positives. Details on this process are provided in TABLE 5.

The maximum amount of bias allowed for the final rate to be considered reportable is "*x*" percentage points (to be determined by each State).

- If the amount of error in the MCO's/PHP's medical record review process (TABLE 5, line 8) does not cause the final reported rate to be biased by more than *x* percentage points, then the measure passes the medical record review validation. The compliance designation is then determined based solely on the auditors' findings from the Information Systems Capabilities Assessment (ISCA). As long as no errors leading to significant bias are discovered during the other components of the performance measure audit process, the final rate is considered valid.
- If the amount of error in the MCO's/PHP's medical review process (TABLE 5, line 8) ultimately causes the final reported rate to be biased by more than *x* percentage points, the rate is automatically considered invalid. The performance measure is then designated as invalid.

TABLE 5: Impact of MRR Findings

Line #	Description	Measure A	Measure B	Measure C
1	Final Data Collection Method Used (e.g., medical record review, hybrid,)			
2	Error Rate (Percentage of records selected for audit that were identified as not meeting numerator requirements, as shown in TABLE 4, column F)			
3	Is error rate < 10%? (Yes or No) --If yes, MCO/PHP passes MRR validation; no further MRR calculations are necessary. --If no, the rest of the spreadsheet will be completed to determine the impact on the final rate.			
4	Denominator (The total number of members identified for the denominator of this measure, as identified by the MCO/PHP)			
5	Weight of Each Medical Record (Impact of each medical record on the final overall rate; determined by dividing 100% by the denominator in line 4.)			
6	Total Number of MRR Numerator Positives identified by the MCO/PHP using MRR.			
7	Expected Number of False Positives (Estimated number of medical records inappropriately counted as numerator positives; determined by multiplying the Error Rate in line 2 by line 6, the total number of MRR numerator positives reported.)			
8	Estimated Bias in Final Rate (The amount of bias caused by medical record review, measured in percentage points; determined by multiplying the Expected Number of False Positives in line 7 by line 5, the Weight of Each Medical Record.)			

If line 8 is <x%, then the final rate is not considered to be significantly biased by medical record review alone. If the other components of the audit process did not identify any other issues that would introduce bias into the rate, the rate will be considered valid.

If line 8 is >x%, then the final rate is considered to be significantly biased. The measure will be considered invalid.

Numerator Validation Findings - Reviewer Worksheet

Audit Element	Met	Not Met	N/A	Comments
All appropriate data are used to identify the entire at-risk population.				
The MCO/PHP has used the appropriate data, including linked data from separate data sets, to identify the entire at-risk population.				
The MCO/PHP has in place and utilizes procedures to capture data for those performance indicators that could be easily under-reported due to the availability of services outside the MCO/PHP.				
Qualifying medical events (such as diagnoses, procedures, prescriptions, etc.) are properly identified and confirmed for inclusion in terms of time and services				
The MCO's/PHP's use of codes used to identify medical events are complete, accurate, and specific in correctly describing what has transpired and when.				
The MCO/PHP correctly evaluated medical event codes when classifying members for inclusion or exclusion in the numerator.				
The MCO/PHP has avoided or eliminated all double-counted members or numerator events.				
Any non-standard codes used in determining the numerator have been mapped to a standard coding scheme in a manner that is consistent, complete, and reproducible as evidenced by a review of the programming logic or a demonstration of the program.				
Any time parameters required by the specifications of the performance measure are adhered to (i.e., that the measured event occurred during the time period specified or defined in the performance measure).				

Audit Element	Met	Not Met	N/A	Comments
Medical record data extracted for inclusion in the numerator are properly collected.				
Medical record reviews and abstractions have been carried out in a manner that facilitates the collection of complete, accurate, and valid data.				
• Record review staff have been properly trained and supervised for the task.				
• Record abstraction tools require the appropriate notation that the measured event occurred.				
• Record abstraction tools require notation of the results or findings of the measured event (if applicable).				
• Data included in the record extract files are consistent with data found in the medical records as evidenced by a review of a sample of medical record for applicable performance measures. **(From Medical Record Review Validation Tools-Table 5, ATTACHMENT XII)**				
The process of integrating administrative data and medical record data for the purpose of determining the numerator is consistent and valid.				

ATTACHMENT XIV

Policies, Procedures, Data, and Information Used to Implement Sampling: Review Worksheet

Documents	Reviewed	Not Reviewed	Comments
Description of software used to execute sampling sort of population files when sampling (systematic) is used.			
Policies to maintain files from which the samples are drawn in order to keep population intact in the event that a sample must be re-drawn, or replacements made.			
Computer source code or logic identifying specified sampling techniques, and documentation that the logic matches the specifications set forth for each performance measure, including sample size and exclusion methodology.			
Methods used for sampling for measures calling for hybrid data or medical record review.			
Documentation assuring that sampling methodology treats all measures independently, and that there is no correlation between drawn samples.			
Observation of or documentation of procedures in which a biased sample was identified and corrected.			
Documentation of "frozen" or archived files from which the samples were drawn, and if applicable, documentation of the MCO's/PHP's process to re-draw a sample or obtain necessary replacements.			

Describe Documentation Review and Demonstrations Provided:

ATTACHMENT XV

Sampling Validation Findings - Reviewer Worksheet

Audit Element	Met	Not Met	N/A	Comments
The MCO/PHP has followed the specified sampling method to produce an unbiased sample which is representative of the entire at-risk population.				
• Each relevant member or provider had an equal chance of being selected; no one was systematically excluded from the sampling.				
• The MCO / PHP followed the specifications set forth in the performance measure regarding the treatment of sample exclusions and replacements, and if any activity took place involving replacements of or exclusions from the sample, the MCO/PHP kept adequate documentation of that activity.				
• Each provider serving a given number of enrollees had the same probability of being selected as any other provider serving the same number of enrollees.				
• The MCO/PHP examined its sampled files for bias, and if any bias was detected, the MCO/PHP is able to provide documentation that describes any efforts taken to correct it.				
• The sampling methodology employed treated all measures independently, and there is no correlation between drawn samples.				
• Relevant members or providers who were not included in the sample for the baseline measurement had the same chance of being selected for the follow-up measurement as providers who were included in the baseline.				

Audit Element	Met	Not Met	N/A	Comments
The MCO/PHP maintains its performance measurement population files/ data sets in a manner which allows a sample to be re-drawn, or used as a source for replacement.				
• The MCO/PHP has policies and procedures to maintain files from which the samples are drawn in order to keep the population intact in the event that a sample must be re-drawn, or replacements made, and documentation that the original population is intact.				
Sample sizes collected conform to the methodology set forth in the performance measure specifications, and the sample is representative of the entire population.				
• Sample sizes meet the requirements of the performance measure specifications.				
• The MCO/PHP has appropriately handled the documentation and reporting of the measure if the requested sample size exceeds the population size.				
• The MCO/PHP properly oversampled in order to accommodate potential exclusions.				
For performance measures which include medical record reviews (e.g., hybrid data collections methodology), proper substitution methodology was followed.				
• Substitution applied only to those members who met the exclusion criteria specified in the performance measure definitions or requirements.				
• Substitutions were made for properly excluded records and the percentage of substituted records was documented.				

Using Performance Measures

Using Performance Measures

Michael H. Bailit
Bailit Health Purchasing, LLC

Michael H. Bailit, M.B.A.

Michael is the president of Bailit Health Purchasing, LLC (BHP), a Massachusetts-based firm that assists public agencies and purchaser coalitions in the purchase of services from, and the management of performance by, managed care plans and service providers. BHP also assists states in new program design and policy development. Michael has assisted the states of Connecticut, Georgia, Minnesota and Texas in new program development. He has provided managed care procurement, performance monitoring, and evaluation services for the states of Iowa, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Vermont, and Virginia, and has trained state staff on managed care vendor oversight in Maryland, Michigan, New Mexico, and Pennsylvania.

Prior to forming BHP, Michael served as the Assistant Commissioner for Benefit Plans in the Massachusetts Division of Medical Assistance, the state Medicaid agency. His responsibilities included the management of all of the Division's benefit plans, including the HMO, behavioral health, primary care case management, and senior care programs. He also implemented the Massachusetts enrollment broker program, which was the first such statewide program in the country. For each of these programs he designed and supervised the execution of procurements as well as ongoing vendor performance management. He was also responsible for new managed care program development for the Division, including the Division's HCFA 1115 health reform waiver and its 1115 Medicare-Medicaid dual-eligibles waiver. While with Massachusetts, he served as chair of the HCFA Medicaid Managed Care Technical Advisory Group.

Also while with Massachusetts, Michael founded the Massachusetts Healthcare Purchaser Group and served as its chairman and president from 1993-1996. The MHPG is a statewide coalition of 67 public and private purchasers of managed care and is the leading voice of purchasers in the Commonwealth.

Previously, Michael worked for Digital Equipment Corporation and was involved in planning and management activities for Digital's U.S. health and welfare benefits. Michael was heavily involved in the development of Digital's innovative managed care program. While at Digital he developed Digital's nationally-recognized HMO Standards and created their HMO network management program. Prior to Digital, Michael held positions in the managed care industry.

Michael received his Bachelor's degree at Wesleyan University and his M.B.A. from the Kellogg Graduate School of Management at Northwestern University.

Using Performance Measures

Monica Wassell
FMAS/DynCorp

MONICA C. WASSELL, R.N., M.P.P.

Program Director

SUMMARY:

Ms. Wassell has over 12 years of experience with medical information systems and over 20 years of experience in the healthcare field. She has supported HCFA External Quality Review Organization (EQRO) protocol development and has worked directly for the National Committee of Quality Assurance (NCQA) to manage Managed Care Organization (MCO) accreditation surveys and design improvements to NCQA standards. Ms. Wassell is responsible for structuring, implementing, and managing project work plans, including facilitating multidisciplinary team meetings; assuring that budgetary and time constraints are properly managed; and preparing interim and final project reports that meet client specifications. She manages direct project staff, including matrixed resources in finance, contract, and technical divisions of the company. Ms. Wassell assists in developing technical proposals for federal, state, and commercial projects. In her current role, Ms. Wassell is responsible for contracts that support the National Quality Management Program for the Department of Defense, and the State of Texas, for its external quality monitor for Medicaid managed care, the Texas Health Quality Alliance (THQA), with tasks that include the collection, analysis, and reporting of performance and outcome measures for hospital accreditation, HCFA requirements for Medicare managed care plans, and Medicaid Managed Care evaluation; special studies focused on compliance with clinical practice guidelines and other disease management activities; as well as training and education programs to assist clients in data-driven quality improvement activities associated with health care delivery.

EDUCATION:

1995, MPP, Public Policy, Duke University
1986, BA, Economics, University of California at Berkeley
1971, RN, Nursing, Evanston Hospital School of Nursing

Validating Plan-Level Performance Measures

27 September 2000

Presented by:

Monica Wassell, RN, MPP

Purpose of Protocols

- Validating Plan-Level Performance Measures
  - Verify accuracy of reported results
  - Verify compliance of MCO's or PHP's production processes with specifications
  - Report to State
  - Evaluate performance against any benchmarks or requirements set by State

Methodology for Developing the Protocol

- Examined existing protocols and tools from:
  - NCQA
  - IPRO
  - The MEDSTAT Group

Assumptions for Protocols

- State has established a set of specific plan-level performance measures to be reported
- State has prescribed methods by which these measures are to be collected and calculated
- State has prescribed methods by which these measures are to be reported, and time frames for reporting

Protocol Activities

- Review of data management processes of MCO/PHP
- Evaluation of compliance with state specifications for performance measure(s)
- Verification of selected performance measures to confirm accuracy

Key Assessment Areas

- Structure of information system to enable capture of necessary data, integrating the data, and procedures to support data integrity
- Documentation of processes used to prepare and submit performance measures (including all sub-areas of denominator, sampling, numerator, algorithm, calculation, and reporting)

Protocol Activities Include:

- Pre-Onsite Visit
  - Understanding State requirements for performance measurement methodology and reporting
  - Becoming familiar with MCO"s/PHP's information system that supports calculation of performance measures
- Onsite
  - Validating processes of production and reporting of performance measures
    - Reviewing Policy and Procedure Manuals
    - Reviewing documentation and/or observation of processes
    - Interviewing key MCO/PHP staff
- Post-Onsite Visit
  - Documenting summary of findings and identification of areas of concern
  - Submitting summary report to State

Pre-Onsite Activities

- Review State's requirements for MCO/PHP performance measurement and reporting
- Prepare MCO/PHP for EQRO Onsite visit
  - Contact MCO/PHP
  - Request MCO/PHP information on selected performance measures
  - Request list of enrollees included in numerators for validation of medical record review findings
  - Notify MCO/PHP about documentation that may be reviewed
  - Request background information on MCO/PHP through an ISCA
- Assess integrity of MCO's/PHP's information system

Onsite Activities

- Assess data integration and control
- Assess documentation of data and processes used in calculating and reporting performance measures
  - Denominators
  - Numerators
  - Sampling process
  - Report submission

Post-Onsite Activities

- Determine preliminary validation findings for each measure
- Alternative options for reporting
  - Option 1:
    - Write summary of findings
    - Submit report with supporting documentation
    - State will determine compliance with each area, and whether MCO met any specific performance levels established by State
  - Option 2:
    - Write summary of findings
    - Submit report with supporting documentation
    - Based on established decision support tools, recommend compliance designations for each area

Performance Measures: Behavioral Health

Performance Measures: Behavioral Health

Barry Kast
Oregon Mental Health Division

BIOGRAPHY

Barry S. Kast, MSW

Mr. Kast is the Administrator of the Oregon Mental Health and Developmental Disability Services Division. He has worked in public mental health services for more than twenty years with experience in adult day treatment, acute inpatient care, as director of a county mental health center and as state mental health program director. At the national level, Mr. Kast has served on the Board of Directors for the National Association of State Mental Health Program Directors (NASMHPD) from 1994 to the present, and is the current Vice President of NASMHPD (2000 - 2001).

He has been actively involved in the management of system change in Oregon including state hospital reduction, capitated children's programming, state-level planning for Oregon's incorporation of mental health services in health reform, and the relocation of training center residents (ICF/MR) to community settings.

Mr. Kast is a graduate of Stanford University with advanced degrees in English from the State University of New York and social work from Portland State University. He resides with his wife, son and daughter in Corvallis, Oregon.

Performance Measures: Behavioral Health

Deborah Garnick
Brandeis University

Deborah Garnick

Deborah Garnick, Sc.D., is a Research Professor at the Institute for Health Policy at the Heller School at Brandies University. She reached her doctorate in health services research from the School of Hygiene and Public Health at Johns Hopkins University. In 1997 she was elected a Fellow of the Association for Health Services Research.

Before coming to Brandies in 1992, she was:

- Deputy Director of the Program on Health Care Financing and Insurance in the Department of Health Policy and Management of the Harvard School of Public Health (1989-1992)
- Research Associate at the Institute for Health Policy at the University of California, San Francisco (1983-1989)
- A Service Fellow at the National Center for Health Services Research of the federal Department of Health and Human Services during her graduate training at Johns Hopkins

Currently, Dr. Garnick is focusing on two research projects. First, she is the Co-Principal Investigator on studies that involve tracking of drug and alcohol abuse services and mental health services provided by the managed behavioral health care industry (funded by the National Institute on Drug Abuse, National Institute on Alcoholism and Alcohol Abuse and the Substances Abuse and Mental Health Administration). Second, she is directing an effort to develop performance measures for substance abuse services in managed care plans.

Dr. Garnick has published widely on the topics of state-level health insurance reform legislation, quality of hospital and ambulatory care, and methods of using data collected for administrative purposes for health services research.

IMPROVING PERFORMANCE MEASURES FOR ALCOHOL AND OTHER DRUG SERVICES IN MANAGED CARE PLANS

Deborah Garnick (Brandeis University)
Frank McCorry (Office of Alcoholism and Substance Abuse,NY State)
Mady Chalk (Center for Substance Abuse Treatment)
Fran Cotter (Center for Substance Abuse Treatment)

for the Washington Circle Policy Group

September 27, 2000

Support was provided by the Center for Substance Abuse Treatment (CSAT)

History

- **Group of national experts in substance abuse, managed care, and performance management**
- **Chaired by Frank McCorry**
- **Convened by the Center for Substance Abuse Treatment (CSAT) Office of Managed Care in March, 1998**

Goals

- **Develop and pilot test a core set of performance measures for substance abuse treatment for public- and private- sector health plans**

- **Collaborate with a broad range of stakeholders to ensure widespread adoption of alcohol and other drug (AOD) performance measures by private employers, public payers and accrediting organizations.**

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Fundamental Values

- **Treatment is essential**
- **Recognition is a key first step**
- **Comprehensive treatment is critical to recovery**
- **Quality AOD care yields multiple benefits**

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Underlying Assumptions

- **Available data collection approaches**
- **Initial focus on process measures**
- **Links to the accreditation process**

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Framework -- Four Domains

1. **Prevention/Education** -- Activities designed to raise the general awareness of substance abuse as a major debilitating disorder affecting individuals, families, and the greater society

2. **Recognition** -- Efforts at case-finding, including: screening, assessment, and referral

3. **Treatment** – Activities associated with rehabilitation of individuals who have a substance abuse disorder diagnosis

4. **Maintenance** -- Activities related to sustaining long-term positive outcomes

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1. Prevention Education

- **Educating Patients About Substance Abuse --**Percent of adult patients with primary care visits who are advised or given information about substance abuse.

- **Preventive Interventions for Family Members or Significant Others of Substance Abuse Clients in Treatment** -- Percent of survey respondents who report using substance abuse services and who also report that their family member/significant other received preventive interventions.

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2. Recognition

- **Identification Rates --** Number of cases per 1,000 members who were diagnosed with substance abuse or dependence or who received substance abuse or dependence related plan service on an annual basis.

- **Initiation of Plan-Provided Substance Abuse Services --** Percentage of individuals with an index diagnosis of substance abuse or dependence who receive any additional substance abuse services within 14 days.

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3. Treatment

- **Treatment Engagement --** Percentage of clients diagnosed with substance abuse or dependence who receive three plan-provided substance abuse services within 30 days after initiation of care.

- **Linkage of Detoxification and Substance Abuse Plan Services --** Percentage of patients with an index detoxification who receive plan-provided substance abuse services within 14 days following detoxification.

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4. Maintenance

- **Maintenance of Treatment Effects** -- Percent of clients who report specific services provided by the plan to promote and sustain positive treatment outcomes post discharge.

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Data Sources

1. **Claims/encounter data**
   - **Identification Rates**
   - **Initiation of Substance Abuse Plan Services**
   - **Treatment Engagement**
   - **Linkage of Detoxification and Substance Abuse Plan Services**

2. **Surveys of behavioral health clients**
   - **Preventive Interventions for Family Members/Significant Others of Substance Abuse Clients in Treatment**
   - **Maintenance of Treatment Effects**

3. **General member surveys**
   - **Educating Patients About Substance Abuse**

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Claims/Encounter Examples

- Timeline of services
- Diagnostic and procedure information
- Provider information
- Dates enrolled in the health plan
- Demographic information

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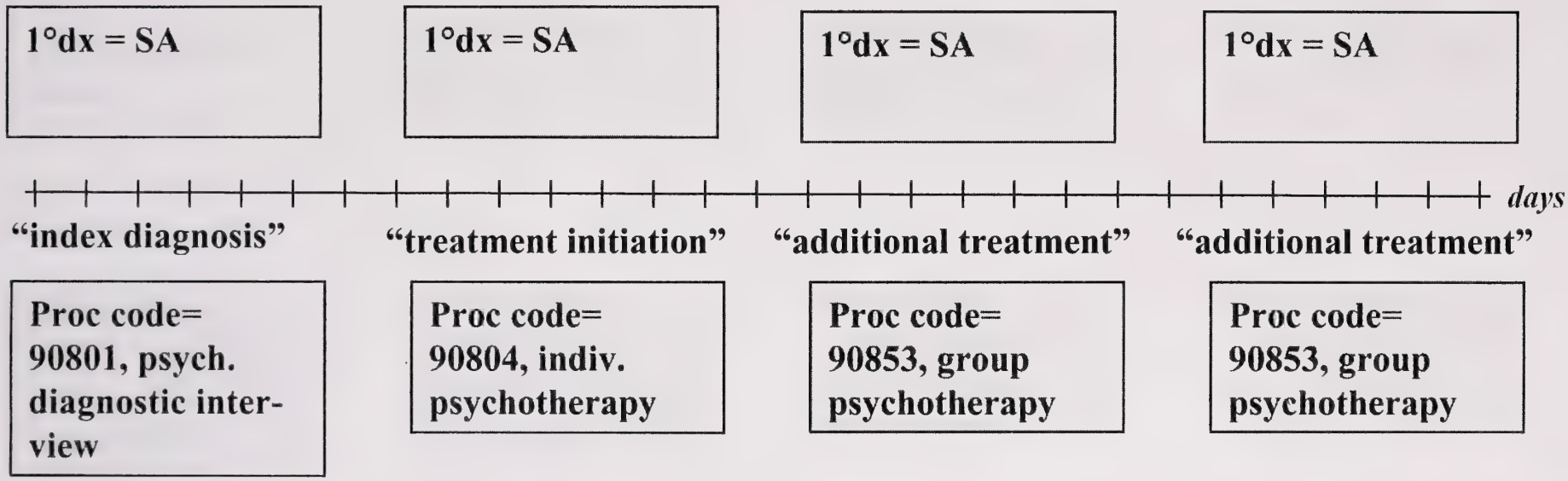
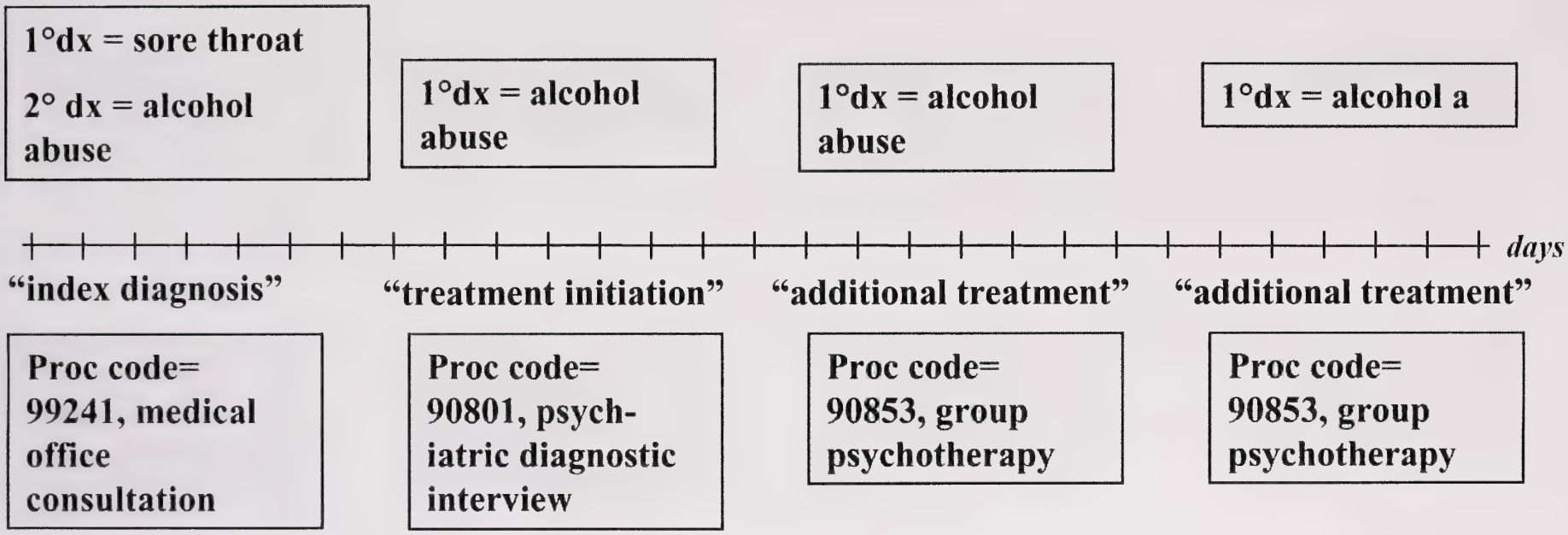
Illustration 1: Specialty Sector



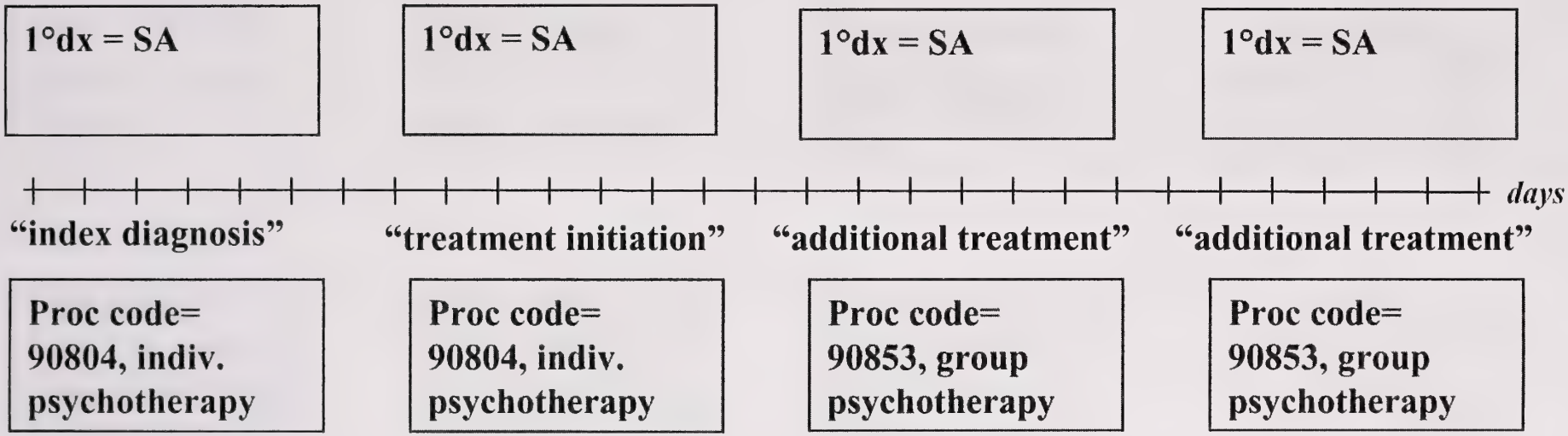
The index claim has a SA diagnosis and procedure codes for diagnostic evaluation. Subsequent claims are for treatment. All providers are SA/MH specialists.

Illustration 2: Dx in Medical Sector



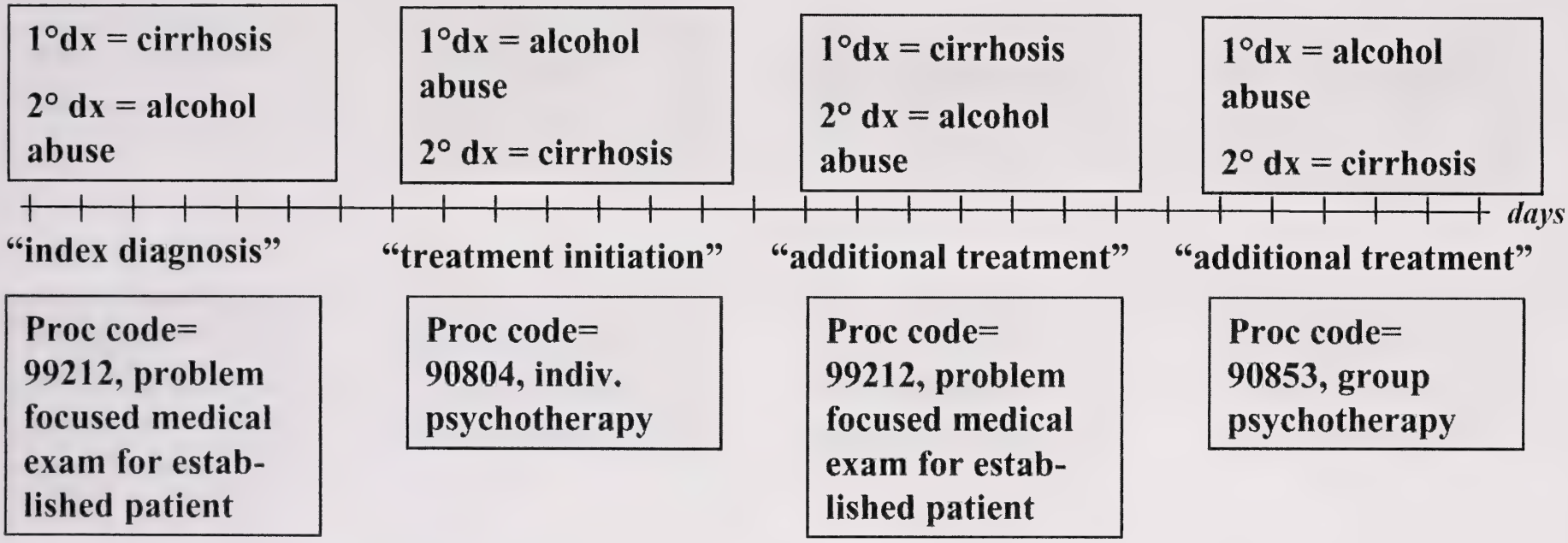
The primary care provider's index claim has a 2° alcohol abuse diagnosis and presumed referral. Next claim is for diagnosis in the specialty sector and subsequent claims indicate SA treatment. All providers are MH/SA specialists.

Illustration 3: Index Treatment



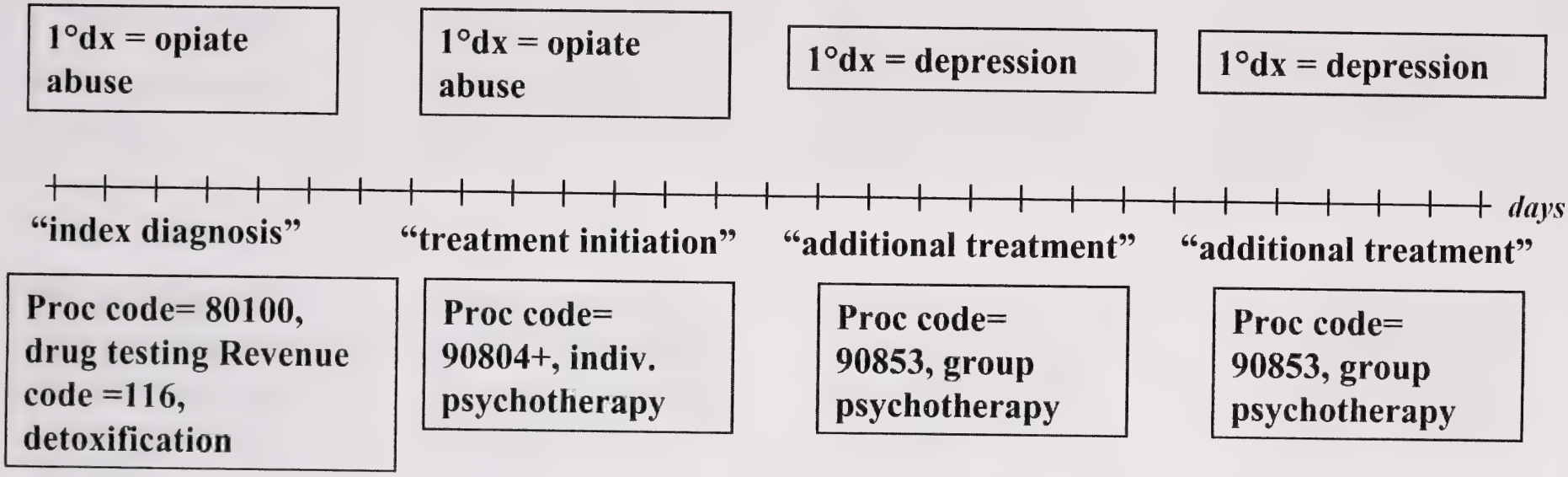
The index claim has a SA diagnosis and treatment. Subsequent claims continue to indicate treatment. All pro-viders are SA/MH specialists.

Illustration 4: Medical Case



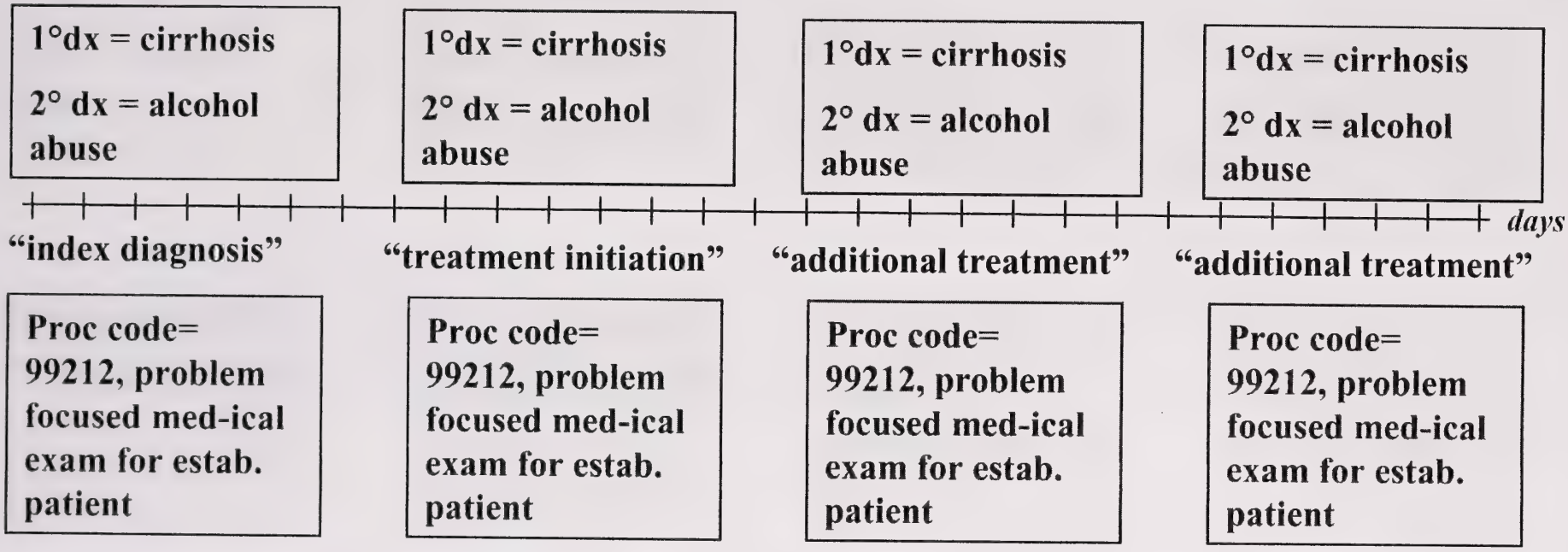
The index and subsequent claims have a 2° diagnosis of alcohol abuse. Two subsequent claims have procedure codes that suggest SA treatment. Providers are internists (visits 1 & 3) and SA/MH specialists (visits 2 & 4).

Illustration 5: Detox/Mental Health



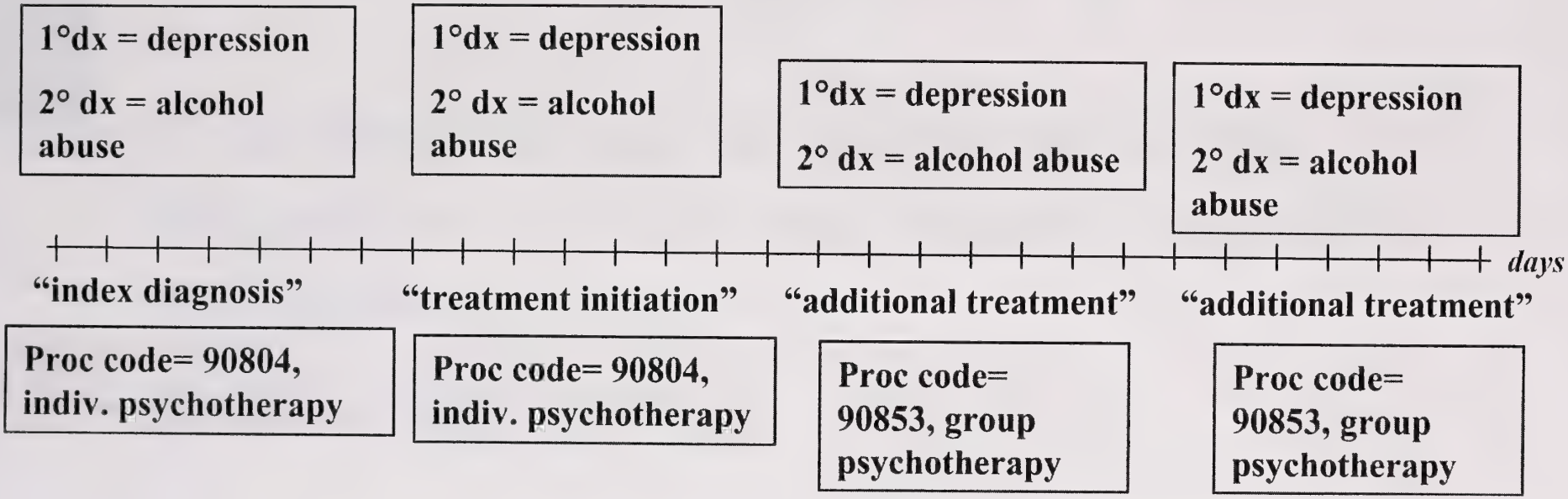
Index detoxification followed by an individual psycho-therapy claim with a SA diagnosis and two more group psychotherapy claims with MH diagnoses. All providers are SA/MH specialists.

Illustration 6: All Primary Care



The index and subsequent claims have a 2° diagnosis of alcohol abuse. All providers are primary care physicians.

Illustration 7: Treatment for Depression



All claims had a primary diagnosis of depression and a secondary diagnosis of alcohol abuse. All providers are SA/MH specialists.

Patient Survey Examples

- **Coordinated with development of the Experience of Care and Health Outcomes (ECHO™) Survey**
- **Now in field testing**

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Ongoing Efforts

- **Testing of measures based on claims/encounter data using information from**
- **Collaboration with ongoing consumer survey efforts -- ECHO survey**
- **Consultation with other groups**

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September 2000

Performance Measures: Behavioral Health

Candice Nardini
Value Options

Candice Woods Nardini

Candice Woods Nardini (Candy) has more than 28 years of experience in mental health service delivery systems. She has worked in both institutional and provider agencies in Iowa, and was program director for Iowa's Mental Health Access Plan as well as the state's second generation of managed behavioral health care, the Iowa Plan for Behavioral Health. When she left the Iowa Department of Human Services, Candy was Chief of the Bureau of Health Care Purchasing and Quality Management with Iowa's Medicaid program and had responsibility for all $1.8 billion in Medicaid-funded services in Iowa, including the state's managed physical and behavioral health care programs. Since June of 1999, Candy has been vice president for public sector development with ValueOptions and works in the design and implementation of the company's public sector managed behavioral health care programs. She has been active in ValueOptions' efforts in Nebraska, Pennsylvania, New Jersey, Connecticut and other states and counties across the nation.

Candy has a bachelor's degree from the University of Missouri and a master's degree in public administration from the University of Nebraska.

Performance Measures: Acute/Preventive Health

Performance Measures: Acute/Preventive Health

Mary Fermazin
Health Services Advisory Group

Mary Fermazin

Dr. Mary Fermazin retired from the California Department of Health Services in August, 2000. During her 12 year tenure with the California Medicaid Program, (Medi-Cal), she served in various roles including: establishing medical policies and utilization review criteria, evaluating new benefits and technology for the Medi-Cal Fee For Service program. As the Chief of the Office of Clinical Standards and Quality in the Medi-Cal Managed Care program, she led the effort to establish a distinctive set of clinical standards and a cutting edge quality improvement program. Over the years, she had participated in various quality forums, both at the national and state level, including the NCQA Committee for Performance Measurement for the development of the Health Plan Employer Data Set (HEDIS®), and the HCFA Quality Assurance Technical Advisory Group. She enjoyed an exceptional reputation for her excellent relationship with health plans, advocates, provider associations and public organizations. Dr. Fermazin is now the Vice President of Medical Affairs of Health Services Advisory Group, Inc. (HSAG), based in Phoenix Arizona. HSAG is a quality improvement organization serving national clients in areas such as external quality review, health outcomes measurement, surveys, and HEDIS® audits for national clients.

Note: HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

HCFA/SAMHSA

Quality Assessment and Improvement Conference

Performance Measures for Acute and Preventive Health

September 27, 2000

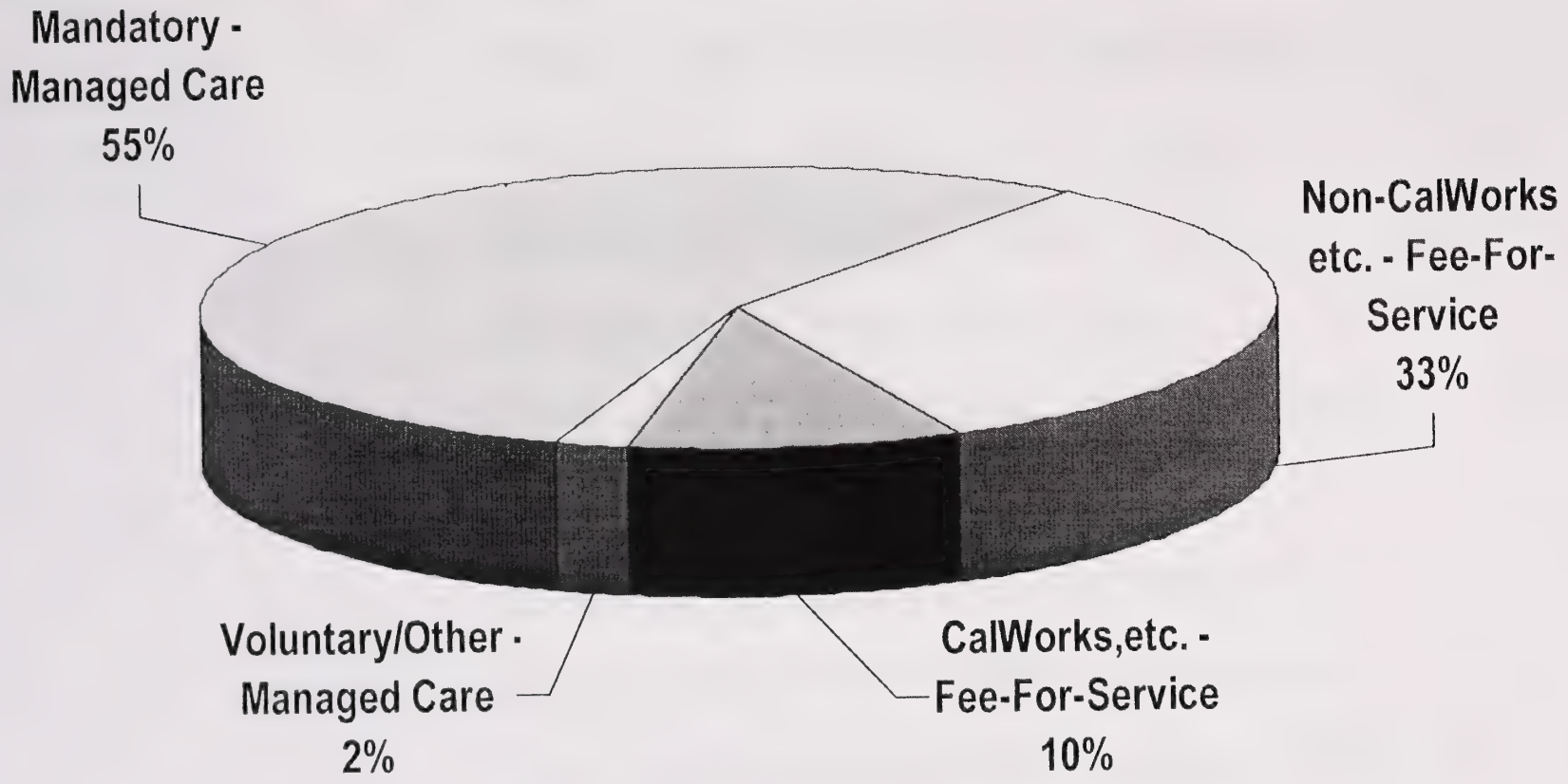
Mary Fermazin, M.D., M.P.A.

Medi-Cal Managed Care

- 26 Plans, 39 Contracts, in 27 Counties
- 2.5 Million Enrollees, 57.3% of all Medi-Cal beneficiaries

Medi-Cal Managed Care

Eligibles in Fee-For-Service and Managed Care



Performance Measures

I. Produced by Health Plans

- Childhood Immunization Status
- Well-Child Visits (<15 Months)
- Well-Child Visits (3-6 Years)
- Adolescent Well-Child Visits
- Initiation of Pre-natal Care
- Prenatal Care in the 1st Trimester
- Check-ups After Delivery
- Diabetic Retinal Examinations
- Chlamydia Screening in Women
- Use of Appropriate Medications for People with Asthma

Performance Measures

II. Produced by the State

- Lead Testing
- Initial Health Assessment
- CAHPS 2.0H
  - Adult & Child Surveys
  - Implemented by the EQRO

Selection of Performance Measures

- Quality Improvement Work Group
  - Medical Directors
  - QI Directors
  - EQRO Staff
  - State Staff

Selection of Performance Measures

- Criteria
  - Relevance
  - Feasibility
  - Scientific Soundness

Production of Performance Measures

I. Health Plans

- Hybrid Method
- Audited by NCQA -licensed HEDIS Compliance Auditor (EQRO)

Production of Performance Measures

II. State

A. Administrative Data Method

- Management Information/Decision Support System

B. Survey Method

- Implemented by the EQRO

Uses of Performance Measures

- Plan to Plan Comparison (Public Reporting)
- Stimulate Plans' Internal QI Effort
- Promote Beneficiary Education & Healthcare Choices
- Improve Program Administration & Design
- Promote Overall Quality of Care Delivered

Challenges in Quality Measurement

- Limitations of available data
- Beneficiary discontinuous eligibility & enrollment
- Beneficiary education & outreach
- New Health plans
- Safety net & traditional providers
- Program benefit design (carve outs)
- Funding

Next Steps

- Improve Performance Measurement
  - Assure administrative data quality
  - Measure other components of health care systems
- Reduce unnecessary duplication of quality reviews
- Empower beneficiaries to make the right health care choices
- Design Incentives/Reward Strategies for Best Performing Plans

Successes

- Commitment
- Collaboration

Performance Measures: Acute/Preventive Health

Foster C. Gesten
New York Department of Health

Foster Gesten, MD

Foster Gesten is a board certified internist who is currently the Medical Director for the Office of Managed Care (OMC) for the New York State (NYS) Department of Health. The Office of Managed Care provides oversight for all managed care plans in NYS and includes responsibility for the management of the Medicaid Managed Care Program. His major responsibilities include clinical management of programs in quality measurement and improvement, development of clinical standards of care, program evaluation and outcomes research. Prior to becoming Medical Director for OMC, he was a Senior Medical Research Scientist in the Office of Quality Improvement at the Department of Health.

Before joining the Health Department in 1994, Dr. Gesten was an internist in a staff model HMO in Albany, New York. He received his training in general internal medicine at Brown University, Rhode Island Hospital.

Performance Measures: Acute/Preventive Health

Alice Lind
Washington Medical Assistance Administration

Alice Lind

Alice Lind currently holds the position of Manger, Quality Management Section, Department of Social and Health Services, Washington State Medical Assistance Administration. She has worked in Quality Improvement since 1993, first with private sector, home health agencies, and since 1995, for the Washington State Medicaid agency. Alice's previous experience includes: direct patient care in both Intensive Care and Hospice, and as a nursing manager of a long term care facility for persons with AIDS. Alice received her RN and her MPH from the University of North Carolina.

Performance Measurement for Washington State Medicaid

- What do we measure?
- Choosing the measures
- Problems in choice of measures
- Validation of measures
- Use of measures
- Problems in the use of measures
- Moral of the story

Performance Measures for Washington State Medicaid

- HEDIS
  - immunizations (childhood and adolescent)
  - prenatal care in the first trimester
  - cervical and breast cancer screening
  - comprehensive diabetes care

- State-developed

Performance Measures for Washington State Medicaid

- State-developed measures
  - EPSDT
  - Post-partum care and family planning
  - Measures adapted for Fee-for-service population

Choosing performance measures

- Quality Assurance Reform Initiative
- Statewide Interagency Quality Committee
- Joint quality oversight with sister agency
- Strategic initiative with Department of Health
- Population and what makes sense

Problems in choosing measures

- Stakeholders want measures that
  - don't exist
  - are hard to collect
  - have no benchmarks

Problems in choosing measures

- Needs of our sister agencies (Health Department and other state purchaser) are not the same as ours
- Need to choose measures that relate to health plan accountability
- What can encounter data be used for instead?
- Burden of producing HEDIS measures

Measure validation

- Chart review measures: inter-rater reliability
- HEDIS measures: HEDIS Compliance Audit
- Problems with definitions and interpretation: lines of business, partial vs. complete, etc.

Use of performance measures

- Public reports
- Corrective action
- Statewide improvement teams

Problems in use of performance measures

- Governor's office wants guaranteed improvement on measures that don't change from year to year
- Stakeholders want understandable measures at the county or provider level
- Plans need technical assistance on corrective action
- What are we really measuring?

Problems in use of measures

- Cycle of contract, measurement, and improvement:
  - Year 1, write contract with HEDIS requirement
  - Year 2, plans collect HEDIS data
  - Year 3, plans report measure
  - Year 4, corrective action in place
  - Year 5, improvement takes effect
  - Year 6, improvement shows up in measure

Moral of the story

- HEDIS is not enough, but it may be too much
- Need to strike a balance between the interests of stakeholders and good science
- Public humiliation only goes so far in producing improvement

Performance Measures: Special Needs Populations

Performance Measures: Special Needs Populations

Susan Moran
Michigan Department of Community Health

Susan Moran

Sue Moran is Manager of the Quality System Section within the Quality Improvement and Customer Service Bureau of Michigan's Medical Services Administration (the State's Medicaid agency). Her section is responsible for many of the Medicaid program quality oversight initiatives, including the external quality review, HEDIS analysis, consumer satisfaction survey, consumer guide, and encounter data reporting. Sue has been employed with the Michigan Department of Community Health since September 1998. Prior to joining DCH, she worked for over ten years in the managed care industry, primarily in quality assessment and improvement. Sue's background is in nursing and public health.

She will discuss with us the work Michigan has done in the development and implementation of a structured site visit tool modeled after their Medicaid contract and used by the state to monitor compliance with structural and operational standards.

Performance Measures: Special Needs Populations

Elaine Haemmerle
Arizona Health Care Cost Containment System

Elaine Haemmerle

Elaine Haemmerle is a member of the Office of Medical Management(OMM) Research Unit for Arizona Health Care Cost Containment System (AHCCCS), Arizona's Medicaid agency. Elaine has worked for AHCCCS since leaving the Air Force in 1994, focusing primarily on Long Term Care. She has worked in various aspects of nursing since graduating from Arizona State University in 1978. Areas of experience include: Military Medicine, Intensive Care, Medical/Surgical, Pediatric, Home Health, Managed Care, Emergency Medicine, Utilization/Quality Management, Urgent Care and Research. During her career she has designed, developed, and implemented a variety of health care related programs such as urgent care clinics, air show emergency coverage, CQI, and quality management. In addition she functions as a consultant on database development and training. Currently she has been functioning as the Long Term Care Research Coordinator for OMM with responsibility for the Long Term Care Quality Indicators, data processing and analysis, database development, and data sharing.

AHCCCS Performance Measures for Special Populations

Evaluating Quality Within a Medicaid Managed Care Agency

Background

- Managed care organization since 1982
- Long Term Care Services (ALTCS) started in 1988
- Acute Services started conducting performance measures in 1994
- ALTCS performance measures development starting in 1995

Performance Measures

- Pneumococcal/Influenza Immunizations for Adult Population
- Diabetes
- Pressure Ulcer Prevalence
- DD Therapy
- ALTCS Satisfaction Survey

Measures Adopted

- Modified HEDIS
- Modified QISMIC
- Contractual requirements
- National standards
- National benchmarks
- Regulatory mandates

Data Sources

- Encounter/Claims
- Chart Reviews
- Minimum Data Set
- Screening Tools
- Interviews
- Surveys
- Direct Assessment
- Interagency Data Sharing

Challenges

- Difficulty in obtaining Medicare data
- Population Movement/Eligibility
- Variation in Populations – Acute, Elderly/ Physically Disabled, DDD, Tribal
- Data validation
- Limited benchmarks for some populations
- Rural nature for large portion of the state

Application

- Comparisons to other providers and standards
- Benchmarking
- Process changes and improvements
- Plan of Action/Corrections
- Policy changes
- In-depth Focus Reviews
- Contractual changes
- Legislative changes

Lessons Learned

- Partnering with other agencies
- Expanding projects to incorporate more than one aspect or one population
- Looking beyond traditional data collection methodologies
- Team approach to development and analysis
- Resource management important to success

By asking for the impossible we attain the best possible.

Armenian Proverb

VALIDATING PERFORMANCE IMPROVEMENT PROJECTS
(IN MANAGED CARE ORGANIZATIONS AND PREPAID HEALTH PLANS)

I. PURPOSE OF THE PROTOCOL

The purpose of health care quality performance improvement projects (PIPs) is to assess and improve processes, and thereby outcomes, of care. In order for such projects to achieve real improvements in care, and for interested parties to have confidence in the reported improvements, PIPs must be designed, conducted and reported in a methodologically sound manner. This protocol specifies procedures for external quality review organizations (EQROs)[1] to use in evaluating the methodologic soundness and reported successes of PIPs implemented by Medicaid Managed Care Organizations (MCOs) and Prepaid Health Plans (PHPs).

II. ORIGIN OF THE PROTOCOL

This protocol was developed from existing standards and guidelines that are used in the public and private sectors. These include:

- *Quality Improvement System for Managed Care (QISMC)*

  QISMC is an initiative of HCFA that sets forth standards and guidelines pertaining to health care quality for Medicare and Medicaid health plans (MCOs, PHPs, and Medicare+Choice plans). These standards and guidelines, in part, address MCO and PHP quality assessment and performance improvement (QAPI) projects. The QISMC standards and guidelines provided guidance to HCFA in the drafting of proposed regulations to implement the quality requirements established by the Balanced Budget Act of 1997 (BBA) for Medicaid MCOs, including those pertaining to MCO and PHP performance improvement projects.

- *Health Care Quality Improvement Studies in Managed Care Settings (HCQIS): A Guide for State Medicaid Agencies (National Committee for Quality Assurance (NCQA))*

  Produced under a contract from HCFA, this guidebook identifies key concepts related to the conduct of quality improvement studies and details widely accepted principles of research design and statistical analysis necessary for designing, implementing and assessing quality improvement studies.

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[1] It is recognized that a State Medicaid agency may choose an organization other than an EQRO (as defined in Federal regulation) to validate MCO or PHP performance improvement projects. However, for convenience, in this protocol we use the term "external quality review organization (EQRO)" to refer to any organization that validates performance improvement projects undertaken by MCOs or PHPs.

- *A Health Care Quality Improvement System for the Medicaid Managed Care (QARI), A Guide for States (Health Care Financing Administrations (HCFA))*

  HCFA's 1993 guide for health care quality improvement provides a framework for building (QI) systems within State Medicaid managed care initiatives. This document included guidelines addressing quality assessment and improvement studies and related activities of MCOs and PHPs.

- *Framework for Improving Performance, From Principles to Practice (Joint Commission on Accreditation of Healthcare Organizations (JCAHO)*

  This publication describes the Joint Commission's theory-based, practical methodology for continuously improving the core work and resulting outcomes of any health care organization. In this document, JCAHO defines the key characteristics and essential behaviors of any health care organization striving to achieve high quality patient care.

- *1990-2000 Standards for Health Care Networks (SHCN) (JCAHO)*

  The JCAHO 1990-2000 SHCN provides a standards-based evaluation process to assist the MCO in measuring, assessing and improving its network's performance. It also helps the MCO focus on conducting performance improvement efforts in a multi disciplinary, system-wide manner. The 1990-2000 SHCN integrates information about the Joint Commission's health care network accreditation process.

- *NCQA 1997, 1998, and 1999 Standards for Accreditation of Managed Care Organizations and NCQA 1999 Standards for Accreditation of Managed Behavioral Healthcare Organizations (MBHO)*

  These documents include administrative policies and procedures for NCQA's MCO and MBHO accreditation programs, the 1997, 1998, and 1999 standards, and rationale statements for the standards.

- *Peer Review Organizations (PRO) 4th and 5th Scope of Work (SOW) (HCFA)*

  The 4th and 5th SOW documents outline the requirements for PROs to adhere to while conducting health care quality and improvement activities for Medicare beneficiaries.

An in-depth comparison of these documents was performed to identify the activities and features common to these protocols, and features unique to individual protocols, while acknowledging the different purposes of the documents. The QISMC, JCAHO and NCQA standards are written as guides for MCOs/PHPs to follow in developing, conducting and evaluating their performance improvement projects. They can also be used by States or their agents (e.g., EQROs) to assess compliance with State mandated guidelines and/or to facilitate overall plan-to-plan comparisons.

QARI was written with States as the intended audience to help them and their agents (e.g., EQROs) assure compliance with regulations and Medicaid program requirements, and promote consistency in the manner in which MCOs and PHPs carry out activities related to performance improvement projects.

The analysis revealed that in spite of their different purposes, all documents identify several common characteristics of effective performance improvement projects. These include:

Selection of Topics: All of the reference documents address the need for PIPs to clearly specify the topic to be addressed. They all acknowledge both clinical (e.g., specific disease or condition such as pregnancy or asthma) and non-clinical (e.g., availability, timeliness and accessibility of care) health service delivery issues as appropriate topics for health care quality improvement initiatives.

Means of Identifying Topics: Continuous data collection and analysis is stressed throughout all documents as a means of identifying appropriate topics. It is stated that topics should be systematically selected and prioritized to achieve the greatest practical benefit for enrollees. A minimal set of criteria is suggested for selecting the appropriate topics, including: considering the prevalence of a condition among, or need for a specific service by, an MCO's/PHP's enrollees; enrollee demographic characteristics and health risks, the likelihood that the study topic will result in improved health status among the enrollees, and the interest of consumers in the aspect of care or services to be addressed.

Scope of project topics: The QISMC standards specify that PIPs should address the breadth of the MCO's or PHP's services, such as whether they include physical health and mental/substance abuse health services. They also identify specific clinical and non-clinical focus areas that are applicable to all enrollees. The QISMC standards also specify that the scope of the health plans' improvement efforts are to include all enrollees.

Stating the Study Question(s): The HCQIS Guide discusses the importance of "stating the study question" after a study topic is identified. It emphasizes that stating a study question helps a project team avoid being sidetracked by data that is not central to the issue under study. For example, once a PIP has identified childhood immunizations as a study topic: it might specify a number of different study questions:

- Have all children received all scheduled doses of one vaccine in particular?
- Have all children of all ages received all recommended vaccines appropriate for their age?
- Have all children of a particular age (e.g., at the age of one, two six or other years) received all age-appropriate immunizations?

Alternatively, an MCO/PHP might desire more detailed information, and specify the study questions as:

- What proportion of Medicaid enrolles who have reached two years of age have received:

  - All four recommended doses of DPT vaccine?
  - All three recommended doses of the Polio vaccine?
  - One recommended dose of the MMR vaccine?
  - At least one dose of Hib in the second year of life?

An MCO/PHP might further specify additional study questions to provide information to assist them in their QI efforts, such as:

- In what percent of cases of lack of immunization were children not immunized for one of the following reasons?

  - Refusal by a parent or guardian.
  - Medical contraindications.
  - Member non-complaint with the recommended immunization regimen.

Incorporating the process of documenting a study question(s) into the project design would help ensure that the MCO/PHP used a systematic method of identifying appropriate indicators and data to be collected. In this protocol we have included "defining the study question(s)" as a key step in designing and implementing a PIP.

Use of Quality Indicators: All reference documents address the need to specify well defined indicators to be monitored and evaluated throughout the project. It is emphasized that quality indicators do not always need to be outcome measures. Process measures are also appropriate, especially when there is strong clinical evidence that the process being measured has a meaningful association with outcomes. There are various ways to obtain appropriate indicators, such as using those dictated from outside sources (such as the State or HCFA) or by an MCO/PHP developing them internally on the basis of clinical literature or findings of expert panels.

In addition to these features found uniformly in all reference documents, other significant aspects of PIPs were identified by one or more of the reference documents. These include:

Significant improvement: HCFA's Notice of Proposed Rulemaking (NPRM) to implement the BBA quality provisions called for MCO/PHP PIPs to demonstrate "significant" improvement. QISMC defines specific amounts of measurable improvement to be demonstrated by the health plan. "Demonstrable" improvement is defined as either: 1) benchmarks established by HCFA

(for national Medicare projects) or State agencies (for statewide Medicaid QI projects) or by the health plans for individual (organizational) projects; or 2) a 10% reduction in adverse outcomes.

Phase-in or time frame requirements: QISMC delineates specific time frame requirements for MCOs/PHPs to reach certain phases in a QI cycle. For example:

- By the end of the first year, an MCO/PHP should have initiated at least two PIPs addressing two different focus areas;
- By the end of the second review year, at least two additional projects addressing two different focus areas should be initiated.
- By the end of the first year after the 2 year phase-in period, and each subsequent year, at least two projects are to achieve demonstrable improvement in two of the focus areas.

Evaluation Tools: NCQA's HCQIS guidebook includes study planning and summary worksheets to be used in the evaluation of an MCO's/PHP's PIP. This feature provides a helpful method for recording data during the evaluation process and promotes the collection of consistent information by all evaluators. This protocol contains an example of a monitoring worksheet that can be used by reviewers.

Scoring system: NCQA accreditation provides a numerical scoring system to measure performance against standards and to promote consistency in the process used to evaluate MCOs. Although the scores do not dictate the final decision with respect to compliance with standards, they do serve as a guide for NCQA evaluators to recommend non-compliance. This scoring system also includes an opportunity for the MCO/PHP to comment on the surveyor's scores before a final decision is rendered. This allows the MCO/PHP to correct any errors or omissions before the final decision is made by the oversight committee. It also promotes continuous improvement practices by securing "customer" input into a final product (i.e., evaluation decisions). This protocol does not include a defined scoring system because compliance determinations will be set by the State agency.

Overrides: The training provided to the evaluators is vital to the success of the scoring process. NCQA provides guidelines to their surveyors to permit overriding the scoring of standards when circumstances allow individual judgement of the survey team. As this protocol does not include a scoring process, an override component is not necessary.

III. OVERVIEW OF THE PROTOCOL

This protocol incorporates activities identified in the preceding discussion of the existing public and private sector standards/guidelines. Activities that all standards/guidelines have in common,

as well as some activities found in one or more reference documents also were included where the activity was felt to be consistent with provisions HCFA has included in its NPRM to implement the BBA.

HCFA's NPRM implementing the BBA provisions pertaining to PIPs provided the basic framework for the protocol.[2] The methodology was based on that found in the HCQIS document. The QISMC standards and guidelines also were a source of much explanatory text. Specific features of the NCQA and JCAHO guidelines were incorporated as appropriate.

The protocol describes two major activities that are to be undertaken in validating PIPs: 1) assessing the MCO's /PHP's methodology for conducting the PIP and 2) verifying actual PIP study findings. Activity one, *Assessing the MCO's /PHP's Methodology for Conducting the PIP*, involves ten steps:

1. Review of the selected study topic(s)
2. Review of the study question(s)
3. Review of the selected study indicator(s)
4. Review of the study population
5. Review of sampling methods (if sampling was used)
6. Review of data collection procedures
7. Assessing MCO/PHP improvement strategies
8. Review of MCO/PHP data analysis and interpretation of study results
9. Assessing whether any documented improvement is "significant"
10. Assessing whether the MCO/PHP has sustained its documented improvement

IV. PROTOCOL ACTIVITIES

ACTIVITY 1: ASSESS THE STUDY METHODOLOGY

Assessing an MCO's or PHP's methodology for conducting a PIP requires the EQRO to have information on the design and implementation of the PIP. This information could be obtained from a hardcopy or electronic written description of the PIP design and implementation that is transmitted to the State and/or the EQRO. It also could be obtained through an interview of MCO/PHP personnel responsible for the design and conduct of the PIP, or a combination of a written description plus interviews. Information obtained through hardcopy or electronic submission, or interview, may also need to be supplemented by supporting documentation obtained from the MCO on an ad hoc basis. Whatever sources(s) of information are used, the EQRO should follow the steps below to assess the methodology of the MCO's/PHP's PIP(s).

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[2] When HCFA issues its final rule to implement the BBA, any departures from the NPRM provisions addressing PIPs, will be incorporated into this protocol as well.

Answers to the questions in each of the steps should be recorded on a standardized Project Monitoring Worksheet such as that located in Attachment 1.

Because HCFA's NPRM did not put forth requirements addressing how long a MCO/PHP may take to complete the PIPs required by the State, it is expected that each State will prescribe these requirements. In implementing this protocol, the EQRO will need to determine from the State:

1) whether the EQRO is to annually validate all projects a) initiated, b) underway but not completed, and c) completed during the reporting year, or d) some combination of these three stages of PIPs.

2) whether the EQRO is to review all projects in the categories above, or a random sample of the PIPs in the particular categories.

Step 1: Review the selected study topic(s)

Rationale

Performance improvement projects for Medicaid managed care should address and achieve improvement in relevant areas of clinical care and non-clinical services. Topics selected for study must reflect the MCO's/PHP's Medicaid enrollment in terms of demographic characteristics, prevalence of disease and the potential consequences (risks) of the disease. Note that sometimes the State Medicaid agencies may have selected the MCO's/PHP's study topic.

Potential Sources of Supporting Information

- Data on enrollee characteristics relevant to health risks or utilization of clinical and non-clinical services, such as age, sex, race/ethnicity/language and disability or functional status.
- Utilization, diagnostic and outcome information, such as outpatient and inpatient encounters, services, procedures, medications and devices, admitting and encounter diagnoses, adverse incidents (such as deaths, avoidable admissions, or readmissions); and patterns of referrals or authorization requests.
- Data on the MCO's/PHP's performance as reflected in standardized measures, including, when possible: local, State, or national information on performance of comparable organizations.
- Data from other outside organizations, such as Medicare or Medicaid fee-for-service data, data from other health plans, and local or national public health reports on conditions or risks for specified populations.
- Data from surveys, grievance and appeals processes, and disenrollments and requests to change providers.

Methods of Evaluation

Review the MCO's/PHP's project documentation and, as needed, the above data sources to assess whether the MCO/PHP had selected an appropriate study topic. In general, a clinical or non-clinical issue selected for study should affect a significant portion of the enrollees (or a specified sub-portion of enrollees) and have a potentially significant impact on enrollee health, functional status or satisfaction. The topics should reflect high-volume or high-risk conditions of the population served. High-risk conditions may occur for infrequent conditions or services, such as when a pattern of unexpected adverse outcomes are identified through data analysis. High risk also exists for populations with special health care needs, such as children in foster care, adults with disabilities and the homeless. Although these individuals may be small in number, their special health care needs places them at high risk.

Consider the answers to the following questions to ascertain if the MCO's/PHP's PIP reflected an appropriate study topic.

1. Was the topic selected by the MCO/PHP identified through data collection and analysis of comprehensive aspects of enrollee needs, care and services?

   Review documentation supplied by the MCO/PHP explaining how the study topic was chosen. Determine the extent to which the MCO/PHP considered enrollee demographic characteristic and health risks, and the prevalence of the chosen topic among, or the need for a specific service by, enrollees. Determine the extent to which the explanation is consistent with demographic and epidemiologic information on the MCO's/PHP's enrollees or consistent with information on similar groups in the MCO's/PHP's geographic service area.

   A project topic also may be suggested by patterns of inappropriate utilization. However, the project must have been clearly focused on identifying and correcting deficiencies in care or services that might have led to this pattern, such as inadequate access to primary care, rather than on utilization or cost issues alone. The goal of the project should be to improve health outcomes. Therefore, it is acceptable for a project to focus on patterns of over utilization that present a clear threat to health or functional status.

   Topics to be studied may also have been selected in the basis of Medicaid enrollee input. To the extent feasible, MCOs and PHPs are encouraged to obtain input from enrollees who are users of or concerned with specific focus areas; e.g. priorities in the area of mental health or substance abuse services should be developed in consultation with users of these services or their families.

2. Did the MCO's/PHP's PIPs, over time, address a broad spectrum of key aspects of enrollee care and services? Did the MCO/PHP select topics in clinical and non-clinical focus areas?

It is important that, over time, the chosen topic areas are not limited to recurring, easily measured subsets of health care needs of the enrolled population; e.g., primary preventive care of adults, high cost care of adults. Over time, a MCO's/PHP's PIPs must be representative of the entire spectrum of clinical and nonclinical areas associated with the MCO/PIP. To address this, HCFA's NPRM states that States are to establish MCO/PHP obligations for the number and distribution of projects among required clinical and nonclinical areas. Clinical focus areas include prevention and care of acute and chronic conditions, high- volume services, and high-risk services. Focusing on a high-volume *service,* as opposed to a *clinical condition*, and how it can be improved may have been the target of an MCO's/PHP's performance improvement project. The improvement project may have targeted such services as labor and delivery, a frequently performed surgical procedure, or different surgical or invasive procedures. The MCO/PHP may also target high-risk procedures even if they may be low in frequency; e.g., care received from specialized centers inside or outside of the organization's network; e.g., burn centers, transplant centers, cardiac surgery centers. It could also assess and improve the way in which it detects which of its members have special health care needs and assess these members' satisfaction with the care received from the organization.

Finally, clinical PIPs can address coordination and continuity of care. Continuity and coordination of care both address the manner in which care is provided when a patient receives care from multiple providers and across multiple episodes of care. Such studies may be disease or condition-specific or may target continuity and coordination across multiple conditions.

Projects in non-clinical areas should also address, over time, appeals, grievance and complaints; as well as access to and availability of services. Projects in non-clinical areas can focus on assessing and improving the accessibility of specific services or services for specific conditions, including reducing disparities between services to minorities and service to other members. Projects related to the grievance and coverage determination process may aim either to improve the processes themselves or to address an underlying issues in care or services identified through analysis of grievances or appeals.

Step 2: Review the study question(s)

Rationale

It is important for the MCO/PHP to clearly state, in writing, the question(s) the study is designed to answer. Stating the question(s) is important to stay focused and to set the framework for data collection, analysis and interpretation.

Potential Sources of Supporting Information

- QI study documentation

- Relevant clinical literature

Method of evaluation

Review the MCO's/PHP's project documentation to determine whether the study question(s) was clearly defined. Consider the answers to the following question to determine whether a clear study question(s) was identified.

1. Did the MCO/PHP state the study question(s) clearly in writing?

   The problem to be studied must be stated as clear, simple, answerable question(s). An example of a vague study question is:

   "Does our MCO/PHP adequately address psychological problems in patients recovering from myocardial infarction?"

   In this example, it is not clear how "adequately address" will be assessed. Furthermore, "psychological factors" is a very broad term. A clearer study question could be:

   "Does doing 'x' reduce the proportion of patients with myocardial infarction who develop severe emotional depression during hospitalization?"

Step 3: Review the selected study indicator(s)

Rationale

A study indicator is a variable reflecting a discrete event (e.g., an older adult has/has not received a flu shot in the last 12 months), or a status (e.g., an enrollee's hypertension is/is not under control). Each project should have one or more quality indicators for use in tracking performance and improvement over time. All indicators must be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. In addition, all indicators must be capable of objectively measuring either enrollee outcomes such as changes in health or functional status, enrollee satisfaction, or valid proxies of these outcomes.

Indicators can be few and simple, many and complex, or any combination thereof, depending on the study question(s), the complexity of existing practice guidelines for a clinical condition, and the availability of data and availability of resources to gather data.

Indicator criteria are the set of rules by which the data collector or reviewer determines whether an indicator has been met. Pilot or field testing is helpful to the development of effective indicator criteria. Such testing allows the opportunity to add criteria that might not have been

anticipated in the design phase. In addition, criteria are often refined over time, based on results of previous studies. However, if criteria are changed significantly, the method for calculating an indicator will not be consistent and performance on indicators will not be comparable over time. It is important, therefore, for the indicator criteria to be developed as fully as possible during the design and field testing of data collection instruments.

Potential Sources of Supporting Information

- Clinical and non-clinical practice guidelines
- Administrative data
- Medical records

Methods of Evaluation

Review the MCO's/PHP's project documentation to assess whether appropriate study indicators were used. Use the following questions to help assess study indicators.

1. Did the study use objective, clearly and unambiguously defined, measurable indicators?

   When indicators exist that are generally used within the public health community or the managed care industry (such as NCQA's Health Plan Employer Data and Information Set (HEDIS) or the Foundation for Accountability's (FACCT) measures) and these indicators are applicable to the topic, use of those indicators is preferred. However, indicators may be developed by the MCO/PHP on the basis of current clinical knowledge or health services research. When a MCO/PHP develops its own indicators, it must be able to document the basis on which it adopted an indicator.

   Consider the following list of key characteristics to determine if meaningful indicators were developed.

   - Was/were the indicator(s) related to identified health care guidelines pertinent to the study question?
   - Was this an important aspect of care to monitor that made a difference to the MCO's/PHP's beneficiaries?
   - Were the data available either through administrative data, medical records or other readily accessible sources?
   - Did limitations on the ability to collect the data skew the results?
   - Did these indicators require explicit or implicit criteria? The MCO/PHP must consider the specificity of the criteria used to determine compliance

with an indicator or with a performance measure related to the indicator. The greater number of people involved in data collection and analysis, the greater the need for more explicit, or precise, data collection and indicator criteria to obtain inter-reviewer reliability. The more specific the criteria, the easier the data collection process will be, because staff will not need extensive training. An example of an explicit criterion for an immunization study, is:

- Documentation of refusal by parent to have a child immunized through nurses notes and/or signed refusal by the parent in the medical record.

Implicit criteria may require a high degree of professional clinical judgement, and therefore, may be time-consuming and expensive. An example of an implicit criterion for an immunization study, is:

- Medical contraindications for receiving childhood immunizations.

Specific indicators do not always need to be set at the outset of a performance improvement project. There may be instances in which a project would begin with more general collection and analysis of baseline data on a topic, and then narrow its focus to more specific indicators for measurement, intervention and reevaluation. The success of the project is assessed in terms of the indicators ultimately selected.

2. Did the MCO's/PHP's indicators measure changes in health status, functional status, or enrollee satisfaction, or valid proxies of these outcomes?

The objective of a performance improvement project should be to improve outcomes, defined as objective measures of patient health, functional status or satisfaction following the receipt of care or services. Indicators selected for a topic in a clinical focus area should include at least some measure of change in health status or functional status or process of care proxies for these outcomes. Indicators may also include measures of satisfaction.

It is recognized, however, that relatively few standardized performance measures actually address outcomes. Even when outcome measures are available, their utility as quality indicators may be limited because outcomes can be significantly influenced by factors outside of the organization's control, such as poverty, genetics, environment. Quality indicators do not always need to be outcome measures. Process measures are acceptable as long as it can be shown that there is strong clinical evidence that the process being measured is meaningfully associated with outcomes. To the extent possible, this determination should be based on published guidelines that support the association and that cite evidence from randomized clinical trials, case control studies, or cohort studies.

Although published evidence is generally required, there may be certain areas of practice for which empirical evidence of process/outcome linkage is limited. At a minimum, it should be demonstrated that there is a consensus among relevant practitioners with expertise in the defined area as to the importance of a given process.

While it is recommended to consider enrollee satisfaction as an important outcome of care in clinical areas, improvement in satisfaction should not be the sole demonstrable outcome of a project in any of these areas. Some improvement in health or functional status should also be measured. For projects in non-clinical areas, use of health or functional status indicators also is generally preferred, particularly for projects addressing access to and availability of health care services. However, there may be some non-clinical projects for which enrollee satisfaction indicators alone are sufficient.

Step 4: Review the identified study population

Rationale

Once a topic has been selected, measurement and improvement efforts must be system-wide; i.e., each project must represent the entire Medicaid enrolled population to which the PIP study indicators apply. Once that population is identified, the MCO/PHP must decide whether to review data for that entire population or use a sample of that population. Sampling is acceptable as long as the samples are representative of the identified population (see Activity 5).

Potential Sources of Supporting Information

- Data on the Medicaid enrolled population that enumerates the numbers of enrollees to which the study topic and indicators apply. This would include demographic information from MCO/PHP enrollment files and MCO/PHP utilization, diagnostic and outcome information, such as services, procedures, admitting and encounter diagnoses, adverse incidents (such as deaths, avoidable admissions, or readmissions), and patterns of referrals or authorization requests.
- Other data bases, as needed; e.g., pharmacy claims data to identify patients taking a defined number of a specific medication(s) during a specific enrollment period.

Methods of Evaluation

Review the study description and methodology to assess whether the study clearly identified the study population. Consider the answers to following questions to assess the extent to which the MCO/PHP clearly identified the study population.

1. How did the MCO/PHP define the study's "at risk" population?

- Did the MCO/PHP clearly define all individuals to whom the identified study question(s) and indicators are relevant?

- Did the MCO/PHP include the entire study population or use a sample in the study? The organization's decision may have been determined by the resources available to analyze the data. If the organization is capable of collecting and analyzing data through an automated data system, it might be possible to study the whole population because many of the data collection and analysis steps can be automated. If the data must be collected manually, sampling may be more realistic.
- Did the definition of the study population include any requirements for the length of the study populations' members enrollment in the MCO or PHP?

- Was the study population enrolled for a sufficient length of time to demonstrate the MCO/PHP delivery system at work? The required length of time will vary depending on the study topic and study indicators.

- If the MCO/PHP studied the entire population, did its data collection approach truly capture all enrollees to which the study question applied?

If the MCO/PHP used a sample, go to Step 5. If the MCO/PHP studied the entire population, skip Step 5 and go to Step 6.

Step 5: Review Sampling Methods

Rationale

If the MCO/PHP used a sample to select members of the study, proper sampling techniques need to be used to provide valid and reliable (and therefore generalizable) information on the quality of care provided. When conducting a study designed to estimate the rates at which certain events occur, the sample size has a large impact on the level of statistical confidence in the study estimates. Statistical confidence is a numerical statement of the probable degree of certainty or accuracy of an estimate. In some situations, it expresses the probability that a difference could be due to chance alone. In other applications, it expresses the probability of the accuracy of the estimate. For example, a study may report that a disease is estimated to be present in 35% of the population. This estimate might have a 95% level of confidence, plus or minus five percentage points. This means that we are 95% sure that between 30-40 percent of the population has the disease.

The true prevalence or incidence rate for the event in the population may not be known for the first time a topic is studied. In such situations, the most prudent course of action is to assume that a maximum sample size is needed to establish a statically valid baseline for the plan.

Potential Sources of Supporting Information

- Data on enrollee characteristics relevant to health risks or utilization of clinical and non-clinical services, including age, sex, race/ethnicity/language and functional status.
- Utilization, diagnostic and outcome information, such as services, procedures, admitting and encounter diagnoses, adverse incidents (such as deaths, avoidable admissions, or readmissions), and patterns of referrals or authorization requests.
- Other information as needed, such as pharmacy claims data to identify patients taking a defined number of a specific medication(s) during a specific enrollment period.

Methods of Evaluations

Review the study description and methodology to ensure that proper sampling techniques were applied. Consider the answers to the following questions in evaluating the soundness of the MCO's/PHP's approach to sampling.

1. Did the methods used by the MCO/PHP to calculate the needed sample size consider and specify the true (or estimated) frequency of occurrence of the event, the confidence interval to be used, and the acceptable margin of error?

2. Were the selected confidence interval and margin of error reasonable?

3. Did the MCO/PHP employ valid sampling techniques?

    - There are two basic categories of statistical sampling methods -- probability sampling and nonprobability sampling.

      Probability (or random) sampling methods leave selection of population units totally to chance, and not to preference on the part of the individuals conducting or otherwise participating in the study. Biases are removed in these methods. There are several types of probability (or random) sampling that can be used by the MCO/PHP:

        - In simple random sampling, all members of the study population have an equal chance of being selected for the sample. Population members are generally numbered, and random numbers generated by computer are used to select units from the population.

        - Systematic random sampling - the basic principle is to select every Nth unit in a list. This can be used when a sampling frame is organized in a

way that does not bias the sample. Steps in conducting a systematic sampling are:

1) Construct a comprehensive sampling frame (e.g., list of all beneficiaries).

2) Divide the size of the sampling frame by the required sample size to produce a sampling interval or skip interval (e.g., if there are 250 beneficiaries and a sample of 25 is needed, then divide 250/25 = 10).

3) From a random number table select a random number between 1 and 10.

4) Count down the list to get the Nth name (i.e., the # identified in step 3).

5) Skip down 10 names on the list and select a second name. Repeat the process as many times as needed until the required sample size has been reached.

- Stratified random sampling is used when the target population consists of non-overlapping sub-groups or strata. Typically this is used if the population is homogeneous (same) within a strata and heterogeneous (different) between a strata. Stratified random sampling requires more information about the population and also requires a larger overall sample size than simple random sampling.

- Cluster sampling is used when a comprehensive sampling frame is NOT available. Units in the population are gathered or classified into groups, similar to stratified sampling. Unlike the stratified sampling method, the groups must be heterogeneous within themselves with respect to the characteristic being measured. This method requires prior knowledge about the population. Once clusters are identified, a random sample of clusters are selected.

Non-probability sampling methods are based on personal choice, rather than chance; therefore some bias can be expected. There are several types of non-probability sampling that can be used:

- Judgement sampling involves constructing a sample based on including units in the sample if they are thought (or judged) to be representative of

the population. By doing so, the sample is constructed to be a mini-population.

- Convenience sampling uses units that are readily or conveniently available. For example, if the objective were beneficiary opinions regarding a group practice, patients in the office on any given day or during a specific month could be interviewed.

- Quota sampling ensures that units in the sample appear in the same proportion as in the population. For instance, if a certain target population consisted of 55% female and 45% male, the quota sample would require a similar female/male distribution.

Step 6: Review the MCO's/PHP's data collection procedures

Rationale

Procedures used by the MCO/PHP to collect data for its PIP must ensure that the data collected on the PIP indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained from a study. Reliability is an indication of the repeatability or reproducibility of a measurement. The MCO or PHP should have employed a data collection plan that included:

- clear identification of the data to be collected,
- identification of the data sources and how and when the baseline and repeat indicator data will be collected,
- specification of who will collect the data, and
- identification of instruments used to collect the data.

When data is collected from automated data systems, development of specifications for automated retrieval of the data is necessary. When data are obtained from visual inspection of medical records or other primary source documents, several steps should be taken to ensure the data are consistently extracted and recorded:

1. The key to successful manual data collection is in the selection of the data collection staff. Appropriately qualified personnel, with conceptual and organizational skills, must be used to abstract the data; however, the specific skills will vary with the nature of the data being collected and the degree of professional judgment required. For example, when data collection involves searching throughout the medical record to find and abstract information or the abstractor must judge whether clinical criteria were met, experienced clinical staff, such as registered nurses should collect the data. However, when the abstraction involves verifying the presence of a diagnostic test report, trained medical assistants or medical records clerks may be used.

2. Clear guidelines for obtaining and recording data must be established, especially if multiple reviewers are used to perform this activity. The MCO/PHP should have determined the necessary qualifications of the data collection staff before finalizing the data collection instrument. The abstractor will need fewer clinical skills if the data elements within the data source are more clearly defined. Defining a glossary of terms for each project should be a part of the training of abstractors to ensure consistent interpretation among and between the project staff.

3. The number of data collection staff to be used for a given project affects the reliability of the data. A smaller number of staff promotes inter-reviewer reliability; however, it may also increase the amount of time it takes to complete this task. Intra-rater reliability (i.e., reproducibility of judgements by the same abstractor at a different time) should also be considered.

Potential Sources of Supporting Information

- List of sources of data used in the study
- If medical record review, or other manual data collection was used to produce study data:
  - data recording forms
  - instructions to data collectors
- If automated data collection was used, an algorithm showing the steps in the production of quality indicators and other relevant data collection

Methods of Evaluation

Evaluation of the MCO's/PHP's data collection procedures can be determined through two processes: assessing the study's approach to data collection (discussed in this step) and conducting a verification sample of the study's findings (discussed in ACTIVITY II). Consider the answers to the following questions in determining the soundness of data collection procedures.

1. Did the study design clearly specify the data to be collected?

   Accurate measurement depends on clearly defined data elements. Data elements must be carefully specified with unambiguous definitions. When descriptive terms are used (e.g., high, low, normal), numerical definitions are established for each term. The units of measure must also be specified (e.g., pounds, kilograms, etc.).

2. Did the study design clearly specify the sources of data?

   Data sources vary considerably and depend upon the selected topic and indicators. Similarly, the topic and indicators will reflect not just the clinical and research considerations, but also the available MCO/PHP data sources. Sources can include:

beneficiary medical records, tracking logs, encounter and claims systems, provider interviews, beneficiary interviews and surveys.

3. Did the study design specify a systematic method of collecting valid and reliable data that represents the entire population to which the study's indicators apply?

The MCO's/PHP's PIP study may use automated or manual data collection methods depending on the resources available. If an automated data collection system was utilized, the degree of completeness of the data in the automated system is always a concern. For example, for:

- Inpatient data: Did the data system capture all inpatient admissions?
- Primary care data: Did primary care providers submit encounter data for all encounters?
- Specialty care data: Did specialty care providers submit encounter data for all encounters?
- Ancillary services data: Did ancillary service providers submit encounter or utilization data for all services provided?

The study's design and methodology should include an estimation of the degree of completeness of the automated data used for the PIP study indicators.

Manual data collection may be the only feasible option for many MCOs/PHPs and for many topics selected. The beneficiary medical record is the most frequently used data source. Other manual systems which might contain sources of information may include clinical tracking logs, registries, complaint logs, and manual claims. When evaluating manual data collection, the following issues should be considered:

- Did the MCO/PHP use qualified staff and personnel to collect the data?

  Clinical knowledge and skills were addressed, including good conceptual skills, organization skills, thoroughness, and strong documentation skills.

- Did the MCO/PHP use instruments for data collection that provide for reliable and accurate data collection over the time periods studied?

  If manual data collection was performed, the data collection instrument(s) should be clear and promote inter-rater reliability. An important part of designing the data collection form is developing instructions or guidelines for data collection staff. Form design is particularly important when staff

not involved in the study design perform data collection. Instructions should be clearly and succinctly written and should provide an overview of the study, specific instructions on how to complete each section of the form and general guidance on how to handle situations not covered by the instructions.

4. Did the study design prospectively specify a data analysis plan which reflected the following considerations?

   - Whether qualitative or quantitative data, or both, were to be collected.

     Qualitative data describes characteristics or attributes by which persons or things can be classified; for example, sex, race, poverty level, or the presence or absence of a specific disease. Calculation of proportions and calculation of rates are the two most common qualitative measures.

     Quantitative data are concerned with numerical variables such as height, weight and blood levels. The methods by which the data are analyzed and presented will vary by type of data. Quantitative data require, at a minimum, simple descriptive statistics such as measures of central tendency (i.e., mean, median or mode) and measure of variability (i.e., range or standard deviation).

   - Whether the data were to be collected on the entire population or a sample.

   - Whether the measurements obtained from the data collection activity were to be compared to the results of previous or similar studies. If so, the data analysis plan should have considered evaluating the comparability of the studies and identified the appropriate statistical tests to be used to compare studies.

   - Whether the performance improvement project was to be compared to the performance of an individual health plan, number of health plans, or different provider sites. Comparing the performance of multiple entities involves greater statistical design and analytical considerations than those required for a study of a single entity, such as a health plan.

Step 7: Assess the MCO's/PHP's Improvement Strategies.

Rationale

Real, sustained improvements in care result from a continuous cycle of measuring performance, analyzing performance, and developing and implementing system-wide improvements in care. Actual improvements in care depend far more on thorough analysis and implementation of appropriate solutions than on any other steps in the process.

An improvement strategy is defined as an intervention designed to change behavior at an institutional, practitioner or beneficiary level. The effectiveness of the intervention activity or activities can be determined by measuring the MCO's/PHP's change in performance, according to predefined quality indicators. Interventions are key to an improvement project's ability to bring about improved health care. Appropriate interventions must be identified and/or developed for each performance improvement project, to assure the likelihood of effecting measurable change.

If repeat measures of quality improvement indicate that QI actions were not successful, i.e., did not achieve significant improvement, the problem-solving process begins again with data analysis to identify possible causes, propose and implement solutions, and so forth. If QI actions were successful, the new processes should be standardized and monitored.

Potential Sources of Supporting Information

- Current project baseline data
- Previous project data (if available)
- Results of clinical and literature research
- Project evaluation results completed by evaluators

Methods of Evaluation:

Consider the answers to the following question to help determine the extent to which appropriate interventions were addressed.

1. Did the MCOs/PHPs undertake interventions related to causes/barriers identified through data analysis and QI processes?

   It is expected that interventions associated with improvement on quality indicators will be system interventions, i.e., educational efforts, changes in policies, targeting of additional resources, or other organization-wide initiatives to improve performance. Interventions that might have some short term effect, but that are unlikely to induce permanent change (such as a one-time reminder letter to physicians or beneficiaries) are insufficient.

   An MCO/PHP is not required to demonstrate conclusively (for example, through controlled studies) that a change in an indicator is the effect of its intervention; it is sufficient to show that an intervention occurred that might reasonably be expected to affect the results. Nor is the MCO/PHP required to undertake data analysis to correct for secular trends (changes that reflect continuing growth or decline in a measure as a result of external forces over an extended period of time). To the extent feasible, however, the MCO/PHP should be able to demonstrate that its data have been corrected for any major confounding variables with an obvious impact on the outcomes. The MCO's/PHP's interventions are determined to reasonably result in measured improvement.

Step 8: Review MCO/PHP data analysis and interpretation of study results.

Rationale

Review of MCO/PHP data analysis begins with examining the MCO's/PHP's calculated plan performance on clinical or non-clinical indicators. The review examines the appropriateness of, and the MCO's/PHP's adherence to, the statistical analysis techniques defined in the data analysis plan.

Potential Sources of Supporting Information

- Baseline project indicator measurements
- Repeat project indicator measurements
- Industry benchmarks
- Analytic reports of PIP results by the MCO/PHP

Methods of Evaluation

Consider the answers to each of the following to assess the extent to which MCO/PHP PIP data analysis and interpretation was appropriate and valid.

1. Did the MCO/PHP conduct an analysis of the findings according to its data analysis plan?

2. Did the MCO/PHP present numerical PIP results and findings data in a way that provides accurate, clear and easily understood information?

3. Following the data analysis plan, did the analysis identify:

    - initial and repeat measurements of the prospectively identified clinical indicators for the project?
    - the statistical significance of any differences between the initial and repeat measurements?
    - factors that influence the comparability of initial and repeat measurements?
    - factors that threaten the internal or external validity of the findings?

4. Did the MCO's/PHP's analysis of the study data include an interpretation of the extent to which its PIP was successful and what follow-up activities were planned as a result?

Interpretation and analysis of the study data should be based on continuous improvement philosophies and reflect an understanding that most problems result from failures of administrative or delivery system processes, not failures of individuals within the system. Interpreting the data should involve developing a hypotheses about the causes of less-than-optimal performance and collecting data to validate the hypotheses.

Step 9: Assess whether improvement reported as part of a PIP is significant.

Rationale

HCFA's NPRM proposed to require that an MCO's/PHP's PIPs involve interventions that achieve improvement that is "significant." The degree to which an intervention is statistically "significant" can be measured quantitatively through statistical calculations. While this protocol does not specify a level of statistical significance that must be met, it does require that EQROs assess the extent to which any changes in performance reported by an MCO/PHP as a "significant" can be found to be statistically significant. States may choose to establish their own numerical thresholds for finding reported improvements to be "significant."

Potential Sources of Supporting Information

- Baseline and repeat measures on quality indicators
- Tests of statistical significance calculated on baseline and repeat indicator measurements
- Benchmarks for quality specified by the State Medicaid agency, HCFA for Medicaid, or found in industry standards

Methods of Evaluation

At the point in time an MCO/PHP is far enough into its improvement cycle, review documentation to determine the extent to which improvement occurred. The following elements should be considered in making the evaluation.

1. Through repeated measurement of the quality indicators selected for the project, meaningful change in performance relative to the performance observed during baseline measurement must be demonstrated. The repeat measurement should use the same methodology as the baseline measurement, except that, when baseline data was collected for the entire population at risk, the repeat may instead use a reliable sample. Performance using the identified indicators can be measured by collecting information on all individuals, encounters or episodes of care to which the indicator is applicable (a census) or by collecting information on a representative subset of individuals, encounters, providers of care, etc.

2. A project which measured performance on quality indicators by collecting data on all units of analysis in the population to be studied should demonstrate significant improvement by

achieving a level of improvement defined by the State Medicaid agency or defined by the MCO or PHP as approved by the State Medicaid agency;

3. When a project measured performance on quality indicators by collecting data on a subset (sample) of the units of analysis in the population to be studied, was significant improvement demonstrated by achieving the benchmarks specified previously, or was the quantitative improvement demonstrated in the repeated measurements statistically significant.

Activity 10: Assess whether the MCO/PHP has sustained its documented improvement

Rationale:

HCFA's NPRM proposed to require that the MCO's interventions must achieve improvement that is significant and "sustained over time."

Potential Sources of Supporting Information

- Baseline and first repeated measurements on quality indicators
- Additional measurements on quality indicators made after the first repeat measurement

Methods of Evaluation

Review of the remeasurement documentation is required to assure that the improvement on a project is sustained. Consider the answer to the following question in making a determination as to whether the improvement was sustained.

1. Was the MCO/PHP able to demonstrate sustained improvement through repeated measurements over comparable time periods?

   The MCO/PHP should repeat measurements of the indicators after the initial indicator measurement. It is recognized that because of random year-to-year variation, population changes, and sampling error, performance on any given individual measure may decline in the second measurement. However, when all of the MCOs/PHP's repeat measurements for a given review are taken together, this decline should not be statistically significant and should never be statistically significant after two remeasurement periods.

ACTIVITY 2: VERIFY STUDY FINDINGS (OPTIONAL)

Rationale

In addition to reviewing the methodology and findings of a MCO's/PHP's PIP, an additional activity that States may want their EQRO to address for some or all of the PIPs that the EQRO

validates is to verify the actual findings of the PIP; i.e., determine if the initial and repeat measurements of the quality indicators are accurate. While this activity can be resource intensive and not be feasible to perform for every PIP that an EQRO is to validate, verification activities can provide added confidence in reported MCO/PHP PIP results because they provide evidence that a given PIP is free from bias.

Potential Data Sources Needed for Verification Activities

- Current project data and findings
- Medical records
- MCO/PHP administrative data
- Beneficiary interviews and surveys
- An assessment of the MCO's/PHP's Information System (IS)

Methods of Evaluation

The key focus in this activity is validating the processes through which data needed to produce quality indicators was obtained, converted to information, and analyzed. How to verify quality indicator findings depends on whether the data was obtained through review and abstraction of medical records or produced through an MCO's /PHP's automated Information Systems (IS):

Verification of data obtained through medical record review: Verification of quality indicators produced through medical record review can be achieved by conducting a re-abstraction of a small subset (validation sample) of the records that provided the data for the quality indicators used in the study. Data retrieval and analysis will be conducted on a small scale, with the validation sample following the same abstracting rules of the original study. Statistical correlations then will be made between the validation sample and the original study data.

A wide variety of statistical methods can be applied to assess the degree of correlation between the study and validation measures. Two recommended methods are the Pearson correlation coefficient for continuous data (e.g., age, income, etc) and the Kappa statistic for categorical data (e.g., gender, race, etc.).

Verification of data obtained though MCO/PHP automated IS: The accuracy of quality indicators produced through an MCO's/PHP's automated IS is a reflection of three phenomena:

1) the soundness of the algorithm the MCO/PHP used to produce quality indicators from its IS
2) the integrity (completeness and accuracy) of the MCO's /PHP's IS at capturing enrollee information; and
3) the accuracy of the information translated from source documents (e.g., an enrollee's medical record) into automated data in the MCO's/PHP's IS.

The soundness of the algorithm the MCO/PHP used to produce quality indicators from its IS is to be assessed in Step 6. In order to assess the integrity of the MCO's IS, and the accuracy of the information translated from source documents (e.g., an enrollee's medical record) into automated data in the MCO's/PHP's IS, the EQRO should review a copy of an assessment of the MCO's /PHP's IS and any validations of MCO/PHP encounter data that the State has produced. These activities are described in APPENDIX A and in the protocol, *Validating MCO Encounter Data*, and would typically be conducted as a part of another activity conducted by the EQRO or other organization as part of another activity; e.g., validating encounter data, validating performance measures, or assessing an MCO's or PHP's compliance with standards for MCO/PHP IS specified by the State Medicaid agency or other organization such as a private accrediting organization. In order to use this information to help verify the accuracy of reported quality indicators, the EQRO should obtain a copy of a recently completed assessment of the MCO's/PHP's IS and validation of its encounter data from the MCO/PHP, the State Medicaid agency, or other organization identified by the MCO/PHP. In the event that no current, independent assessment of an MCO's/PHP's IS or encounter data exists, the State may want to contract out this function as a part of validating MCO/PHP PIPs.

Assessing the MCO's/PHP's algorithm together with the integrity of the MCO's/PHP's IS and encounter data should provide a strong indication of the accuracy of the MCO's/PHP's reported quality indicators.

END OF PROTOCOL

PERFORMANCE IMPROVEMENT PROJECTS
PROJECT MONITORING WORKSHEET

Use this worksheet or a similar worksheet as a guide when validating MCO/PHP Performance Improvement Projects. Answer all questions for each activity. Refer to the protocol for detailed information on each area.

ID of evaluator:_____Date of evaluation:___/___/___

Demographic Information	
MCO/PHP Name or ID:	
Project Leader Name:	
Telephone Number:	
Name of Performance Improvement Project:	
Dates in Study Period: _____/_____/_____ to _____/_____/_____	
Type of Delivery System (check all that are applicable)	
____ Staff Model ____ Network ____ Direct IPA ____ IPA Organization _____ MCO _____ PHP	____ Number of Medicaid Enrollees in MCO or PHP ____ Number of Medicare Enrollees in MCO or PHP ____ Number of Medicaid Enrollees in Study ____ Total Number of MCO or PHP Enrollees in Study
Number of MCO/PHP primary care physicians_____ Number of MCO/PHP specialty physicians _____	
Number of physicians in study (if applicable) _____	

I. ACTIVITY 1: ASSESS THE STUDY METHODOLOGY

Step 1. REVIEW THE SELECTED STUDY TOPIC(S)

Component/Standard	Y	N	N/A	Comments
1.1 Was the topic selected through data collection and analysis of comprehensive aspects of enrollee needs, care and services?				

1.2.	Did the MCO's/PHP's PIPs, over time, address a broad spectrum of key aspects of enrollee care and services?				
1.3.	Did the MCO/PHP, over time, select topics in clinical and non-clinical focus areas?				
Step 2:	**REVIEW THE STUDY QUESTION(S)**				
2.1.	Was/were the study question(s) stated clearly in writing?				
Step 3:	**REVIEW THE SELECTED STUDY INDICATOR(S)**				
3.1.	Did the study use objective, clearly defined, measurable indicators?				
3.2.	Did the indicators measure changes in health status, functional status, or enrollee satisfaction, or valid proxies of these outcomes?				
Step 4:	**REVIEW THE IDENTIFIED STUDY POPULATION**				
4.1.	Did the MCO/PHP clearly define all Medicaid enrollees to whom the study question and indicators are relevant?				
4.2	If the MCO/PHP studied the entire population, did its data collection approach capture all enrollees to whom the study question applied?				
Step 5:	**REVIEW SAMPLING METHODS**				
5.1.	Did the sampling technique consider and specify the true (or estimated) frequency of occurrence of the event, the confidence interval to be used, and the margin of error that will be acceptable?				
5.2	Were the selected confidence interval and margin of error reasonable?				

5.3	Did the MCO/PHP employ valid sampling techniques?				
5.4.	Did the sample contain a sufficient number of enrollees?				
Step 6:	**REVIEW DATA COLLECTION PROCEDURES**				
6.1.	Did the study design clearly specify the data to be collected?				
6.2.	Did the study design clearly specify the sources of data?				
6.3.	Did the study design specify a systematic method of collecting valid and reliable data that represents the entire population to which the study's indicators apply?				
6.4.	Did the instruments for data collection provide for consistent, accurate data collection over the time periods studied?				
6.5.	Did the study design prospectively specify a data analysis plan?				
6.6.	Were qualified staff and personnel used to collect the data?				
Step 7:	**ASSESS IMPROVEMENT STRATEGIES**				
7.1.	Were interventions related to causes/barriers identified through data analysis and QI processes undertaken ?				
Step 8:	**REVIEW DATA ANALYSIS AND INTERPRETATION OF STUDY RESULTS**				
8.1.	Was an analysis of the findings performed according to the data analysis plan?				
8.2.	Did the MCO/PHP present numerical PIP results and findings accurately and clearly?				

8.3. Did the analysis identify: initial and repeat measurements, statistical significance, factors that influence comparability of initial and repeat measurements, and factors that threaten internal and external validity?				
8.4 Did the analysis of study data include an interpretation of the extent to which its PIP was successful and follow-up activities?				
Step 9: ASSESS WHETHER IMPROVEMENT IS SIGNIFICANT				
9.1. Was the same methodology as the baseline measurement, used, when measurement was repeated?				
9.2. & 9.3. Was significant improvement demonstrated?				
Step 10: ACHIEVING SUSTAINED IMPROVEMENT				
10.1. Was sustained improvement demonstrated through repeated measurements over comparable time periods?				
ACTIVITY 2. VALIDATING STUDY FINDINGS				
1. Were the findings of the initial study validated? What were its findings?				

Record any additional comments pertinent to the design and/or performance of the study:

Performance Improvement Projects

Performance Improvement Projects

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Health Care Consulting

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EQRO Performance Improvement Project Protocols

Quality Assessment and Improvement: Tools and Strategies for State Medicaid, Mental Health and Substance Abuse Agencies Conference

Ruth M. Martin
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Three Protocols

- Conduct of Medicaid managed care focused studies
- Validation of MCO and PHP performance improvement projects
- Conduct of performance improvement projects for an MCO or PHP

The purpose of quality performance improvement projects (PIPs) is to assess and improve processes, and thereby outcomes, of care.

Sources for the Protocols

- QISMC
- HCQIS
- QARI
- JCAHO 1990-2000 Standards for Health Care Networks
- NCQA 1997, 1998, 1999 MCO Standards
- PRO 4th and 5th Scope of Work

The Three Protocols

- Implement the provisions of the BBA Notice of Proposed Rulemaking
- Are derived from the sources
- Form the nucleus of any performance improvement efforts in any health care setting

Two Principal Activities

- Activity One: Assessing the MCO's/PHP's methodology for conducting the PIP
- Activity Two: Verifying the PIP study findings (optional)

Scope of Validation

- State choice whether to validate annually
  - PIPs that were initiated during the year
  - PIPs completed during the year
  - PIPs
- State choice whether to review all PIPs or a sample of PIPs

Activity One: Assessing the Methodology

- Step 1: Review the Selected Study Topics
- Step 2: Review the Study Questions
- Step 3: Review the Study Indicators
- Step 4: Review the Study Population
- Step 5: Review the Sampling Methods
- Step 6: Review the Data Collection Procedures

Activity One: Assessing the Methodology

- Step 7: Assess the MCO/PHP Improvement Strategies
- Step 8: Review the MCO/PHP data analysis and interpretation of study results
- Step 9: Assess whether improvement is significant
- Step 10: Asses whether improvement is sustained

1. Review the Activity Topic

- Relevant to enrolled population(s)
  - Demographic characteristics
  - Prevalence of condition/service problem
  - Impact of health issue/service problem
- Prioritized to achieve greatest practical benefit for enrollees
- Identifiable population/data set

1. Review the Activity Topic

- Under the control of the MCO/PHP?
- Generally accepted clinical practice guidelines or service standards?
- Both medical and behavioral health topics included in clinical quality (where applicable)?

1. Review the Activity Topic

- Was a broad spectrum of key aspects of care and service addressed over time?
  - Age groups
  - Preventive care
  - Acute care
  - Chronic care
  - Behavioral health
  - Service issues

2. Review the Study Questions

- Clear
- Simple
- Measurable
- Answerable

2. Review the Study Questions

- Are 2-year-old children fully immunized?
- Are newborns breast-fed for six months?
- Are persons hospitalized for mental health problems seen within 7 days after discharge?
- Do families participate in therapy for adolescents in residential treatment centers?

3. Review the Study Indicators

- Variable reflecting:
  - a discrete event (flu shot) or
  - a status (hypertension under control)
- Measures performance for the study topic
  - Health care or service processes
  - Health care or service outcomes
  - Member satisfaction

3. Review the Study Indicators

- Characteristics of good indicators
  - Scientific Soundness
    - Clinical evidence
    - Service relevancy
    - Reproducibility
    - Valid
    - Accurate

3. Review the Study Indicators

- Feasibility
  - Precise specifications
  - Reasonable cost
  - Confidentiality
  - Logistical feasibility
  - Auditability

3. Review the Study Indicators

- Standard indicators provide comparability to benchmarks
  - FAACT
  - HEDIS®
- Are there detailed criteria specifications?
  - Denominator (population/events of interest)
  - Numerator (the members of the population that meet the indicator)

3. Review the Study Indicators

- Did they define additional data needed to explain the results (could be additional study questions/indicators)?
  - What percent of adolescent residential treatment admissions are within 30 miles of home? 50 miles?
  - In what percent of admissions are parents are involved in initial treatment planning? Discharge planning?

4. Review the Study Population

- Is the whole "at-risk" population identified?
  - All medication-dependent diabetics
  - All PCPs
  - All complaints
  - All referral requests

4. Review the Study Population

- Population data
  - Provides absolute population values
  - Easier to do with electronic data
  - Can be prohibitively expensive if abstracted from records
- Sample data
  - Provides *an estimate* of the population values
  - More practical for data abstraction

5. Review Sampling Methods

- Did the MCO/PHP calculate the required sample size?
  - Estimate occurrence of the event of interest
  - Determine desired confidence interval (level of confidence in the results)
  - Determine desired margin of error (range around the results)

5. Review Sampling Methods

- Did the MCO/PHP design a sampling frame?
  - List of persons from which the sample is drawn
  - Inadequate and/or inaccurate data can influence your sampling frame
    - Incorrect diagnosis codes
    - Incorrect CPT codes
    - Missing encounter data

5. Review Sampling Methods

- Did the MCO/PHP use probability sampling, which reduces bias?
  - Random sampling
  - Systematic random sampling
  - Stratified random sampling
  - Cluster sampling

5. Review Sampling Methods

- Did the MCO/PHP avoid nonprobability sampling methods, which introduce bias?
  - Judgement sampling
  - Convenience sampling
  - Quota sampling

6. Review the Data Collection Procedures

- Did the MCO/PHP have a valid data collection methodology?
  - The data accurately measures the indicator
- Did the MCO/PHP have a reliable data collection methodology?
  - Different individuals using the same data collection techniques collect the same data

6. Review the Data Collection Procedures

- Did the MCO/PHP:
  - Create a data analysis plan?
  - Define data to be collected?
    - Refine the numerators and denominators for the indicators
  - Define data sources?

6. Review the Data Collection Procedures

- Did the MCO/PHP establish an automated data collection plan?
  - Define the algorithm
  - Establish confidentiality procedures
  - Run test data
  - Collect data
  - Run validity checks

6. Review the Data Collection Procedures

- Did the MCO/PHP establish a manual data collection plan?
  - Establish confidentiality procedures
  - Design the forms
    - Choose medium
    - Data-entry friendly design
    - Write detailed instructions

6. Review the Data Collection Procedures

- Select staff
- Train staff
  - Data collection staff
  - Data entry staff
- Test for inter-rater reliability (test data)
- Pilot test
- Establish a process to answer and document Q&A

6. Review the Data Collection Procedures

- Debrief data collection staff
  - Data collection issues
  - Provider best practices
  - Identified barriers
- Data entry
  - Clean the data
  - Enter data and check validity
    - Entry edits
    - Programmed edits

6. Review the Data Collection Procedures

- Did the MCO/PHP write up process findings and recommendations for next time?

7. Assess the Improvement Strategies

- Did the MCO/PHP design interventions that address identified barriers?
- Where there strong, focused actions?
  - Mailings to affected members/practitioners vs articles in newsletter
  - Re-engineering poor processes
  - Direct discussions with practitioners

7. Assess the Improvement Strategies

- Did the MCO/PHP develop a work plan?
  - Time lines
  - Assigned staff
  - Planned evaluation
- Did the MCO/PHP implement the interventions?

7. Assess the Improvement Strategies

- Did the MCO/PHP evaluate effectiveness of intervention (if possible)?
  - How many women that received mammogram notices actually got mammograms within 3 months of receiving notice?
  - What percent of persons discharged from a mental health unit had a follow-up visit within 7 days after implementation of a care coordination program?

8. Review the Data Analysis and Interpretation

- Did the MCO/PHP
  - Follow the data analysis plan?
  - Calculate the indicators?
  - Compare performance to goals and benchmarks?
  - Decide if improvement was needed?

8. Review the Data Analysis and Interpretation

- Did the MCO/PHP analyze the causes of poor performance?
  - Use people with the right skills and knowledge
    - Practitioners
    - Members
    - Health educators
    - Staff that do the function
    - Data collection staff
    - Statistical expertise (statisticians, epidemiologists)

8. Review the Data Analysis and Interpretation

- Did the MCO/PHP perform additional quantitative analysis?
  - Additional data that were collected
  - Demographic analysis of those in compliance and those not in compliance
  - Subcomponents of the measure (e.g., DPT, OPV, MMR, Hib, HepB, VZV)
  - Is there artifact in the measure that you may want to remove for analysis? (e.g., HgA1c level in those that had HgA1c testing)

8. Review the Data Analysis and Interpretation

- Did the MCO/PHP perform qualitative analysis—may require more data collection
  - Flow charting
  - Brain storming
  - Fishbone diagrams
  - Pareto analysis

8. Review the Data Analysis and Interpretation

- Did the MCO/PHP identify barriers?
  - Focus on the vital few?
  - Pick barriers it could influence?
  - Dig deep for root causes?

9. Assess Whether Improvement was Significant

- Did the MCO/PHP:
  - Remeasure at an appropriate interval?
  - Use the same measurement methodology the same as the previous measurement methodology?
  - Compare to previous performance
    - Change in performance level?
    - Perform tests of statistical significance?
  - Compare to goals and benchmarks

9. Assess Whether Improvement was Significant

- Was there statistically significant improvement
  - $p<0.1, 0.05, 0.01$?
- Did the MCO/PHP meet its goal?
- Did the MCO/PHP meet the Medicaid Agency goal?

10. Assume Whether Improvement Was Sustained

- Did the MCO/PHP continue regular measurement and intervention until goal was reached?
- Did the MCO/PHP maintain the gain?

10. Assume Whether Improvement Was Sustained

- Continue monitoring or monitor again when:
  - Changing population
  - Changing delivery system
  - Organizational growth
  - Changing staff

Activity Two: Verifying the Findings

- Manual data collection
  - Reabtraction of a sample of data
  - Statistical analysis of the comparison of the MCO/PHP results and the validation sample results

Activity Two: Verifying the Findings

- Automated data collection
  - Review of external audits (e.g., HEDIS audit)
  - Review of encounter data validations
  - Verification of the IS algorithm used for the improvement activity (see Activity One, Step 6)

Performance Improvement Projects

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Massachusetts Division of Medical Assistance

Beth C. Tortolani, RN, BS, MS

PROFESSIONAL SKETCH
September 2000

Ms. Tortolani works for the Commonwealth of Massachusetts, Division of Medical Assistance. Ms. Tortolani has been the Director of the Primary Care Clinician (PCC) Plan since 1994. Prior to becoming the Director of the PCC Plan Ms. Tortolani worked in a variety of positions at the Division which included the oversight of managed care development projects, quality management initiatives and program management.

Prior to working for the Commonwealth Ms. Tortolani held several management positions in the health care industry. Ms. Tortolani is a Registered Nurse and holds a Bachelors Degree in Nursing from the University of Connecticut, Storrs Connecticut, and a Masters Degree in Management from Lesley College, Cambridge, Massachusetts.

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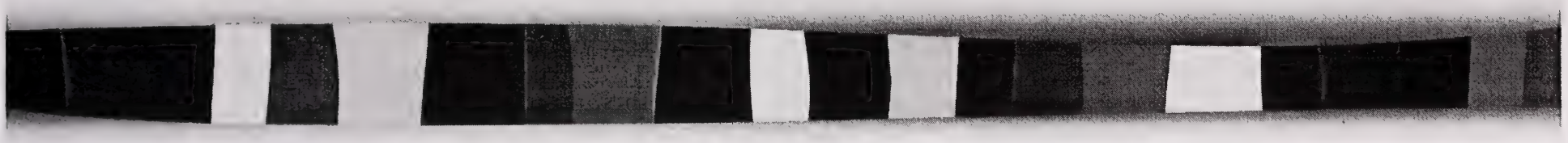
Performance Improvement Projects

Diane Herr
Maryland Health Choice and Acute Care Administration

Diane Herr

Diane Herr is currently the Deputy Director for Provider Management of the HealthChoice Program for the Maryland Medicaid Program. Ms. Herr has been a Deputy Director in the Medicaid Program for the last 6 years. She has held various management positions during her 16 year tenure at the Maryland Department of Health and Mental Hygiene including 3 years as Executive Assistant to the Maryland Secretary of Health. Ms Herr has played an integral part in the planning, development, implementation and management of Maryland's HealthChoice Managed Care Program and her current position includes responsibility for contract management and all quality assurance activities of HealthChoice as well as management of the Hospital, Physician, and Pharmacy programs within the Medicaid fee for service arena.

Maryland's Quality Improvement Project: Appropriate Screening of Enrollees for Substance Abuse



Maryland Department of Health and Mental Hygiene

September 27, 2000

HealthChoice Background

- Currently, HealthChoice is providing coverage for approximately 386,200 enrollees
- Enrollees include children, families receiving welfare, pregnant women and non-dually eligible disabled
  - 3/4 Medicaid enrollees in HealthChoice
  - MH services carved out
- Implemented in July 1997 using 1115 Waiver Authority (freedom of choice, statewideness)
  - the third year of 1115 waiver has just been completed

HealthChoice Background (cont')

- Eight MCOs are participating in the HealthChoice program
  - 6 MCOs currently serve only the Medicaid population
  - 2 MCOs also serve commercial enrollees
- MCO enrollments range from 5,000 to 100,000 lives

Measuring and Monitoring HealthChoice Performance

- Maryland has a comprehensive approach to monitoring HealthChoice MCO performance
- HealthChoice monitoring is currently focused on three primary goals:
  - Assuring Compliance
  - **Promoting Quality Improvement**
  - Improving Policies and Procedures

Quality Assurance Efforts

- Annual Quality of Care Audit conducted
  - An on-site systems and operations performance review of each MCO
  - Focused clinical reviews
    - prenatal care, immunizations at age 2, diabetes care, pediatric asthma, mental health care coordination
- Annual Enrollee and Provider Satisfaction Surveys
- Compliant and Grievance Systems
  - Enrollee and Provider Hotline (over 100,000 calls each year)
- Collection of HEDIS Data

Quality Assurance Efforts (cont')

- Health Risk Assessment Reviews
- Quality Improvement Projects

Quality Improvement Projects

- Four QIPs currently in progress
- Technical assistance provided by EQRO to each MCO
- Validation of MCO QIPs performed by EQRO
- Three-year average expected duration of QIPs

Quality Improvement Projects (cont')

- At least every three years, the State is required to review the care provided to seven special populations
- These seven populations have become the focus of our QIPs
  - Individuals with AIDS
  - Individuals with physical disabilities
  - Individuals with developmental disabilities
  - Individuals in need of substance abuse treatment
  - Homeless
  - Children w/special HealthCare needs
  - Pregnant and Postpartum women

Maryland's QIPs

- First two QIPs:
  - Appropriate screening of enrollees for substance abuse
  - Pneumonia and influenza immunization for individuals with HIV and AIDS
- Second two, DHMH is focusing on:
  - Blood lead screenings for children
  - Access to care for the physically disabled

Developing and Managing QIPs Is a Balancing Act...

- There are ten activities in conducting a QIP
- For purposes of this presentation, the focus is on Maryland's Substance Abuse QIP: Appropriate screening of Enrollees for Substance Abuse

Activity 1: Selecting the Study Topic

- Out of the seven populations, the State identified individuals with the need of substance abuse treatment as one of our initial priorities for QIPs
- Using this population, the State worked with MCOs to identify the study topic of appropriate screening of enrollees for substance abuse

Activity 1: Selecting the Study Topic (cont')

- There were several issues that drove the selection of this study topic
  - political forces
  - high prevalence in population
  - provider and advocate complaints
  - lack of complete encounter data

Activity 2: Defining the Study Question

- Study Question: Are providers screening enrollees in their initial health assessments?
  - MCOs were unable to provide data to confirm screening for substance abuse
  - Encounter data incomplete
  - Provider complaints regarding lack of referrals for treatment

Activity 3: Selecting Study Indicators

- The State, EQRO and the MCOs worked collaboratively to develop three study indicators:
  - 1. Rate of substance abuse screening for all enrollees
  - 2. Rate of substance abuse screening for all enrollees within 90 days
  - 3. Average number of days for substance abuse screening to be performed for all enrollees

Activity 4: Defining the Study Population

- Enrollees at least 21 years of age
- Enrollees continuously enrolled for at least 90 days during a 12-month period (10/97-9/98)
- Enrollees with at least one encounter
- Enrollees with diagnoses of diabetes, pregnancy, severe mental illness were excluded from the study population

Activity 5: Using Proper Sampling Techniques

- The State worked with EQRO to identify a adequate sample size to provide 95% level of confidence for study purposes
  - sample size 200 enrollees per MCO
- Used random sampling technique
- MCOs developed random sample from encounter data
- EQRO validation of sample subset

Activity 6: Conducting Reliable Data Collection

- Data Source Used: Medical records
- Data Collected: Notation of screening with nationally-accepted screening tool
- Data Collectors: Determined by each MCO
- Data Collection Instrument: Determined by each MCO

Activity 7: Analyzing Data and Interpreting Study Results

- Data Sources: No benchmarks were available, e.g., no industry standards, no previous performance measurements
- Only data available was baseline data collected for QIP

Activity 7: Analyzing Data and Interpreting Study Results (cont')

- Findings of Baseline Data: MCOs' review and analyses showed higher rate of screening than found in the EQRO validation process

	Indicator I: Rate of Screening for all Enrollees	Indicator II: Rate of Screening within 90 days	Indicator III: Average # of days for Screening
MCO Reporting	28%	1%	243 days
EQRO Validation	1%	0%	291 days

Activity 7: Analyzing Data and Interpreting Study Results (cont')

- Interpretation of reviewer
  - MCOs picked their own reviewers
  - EQRO used medical professionals as reviewers
- Errors by MCOs in following sampling criteria
- Variance of definition of a substance abuse screen

Activity 8: Implementing Intervention and Improvement Strategies

- All eight MCOs completed an intervention at the provider level
  - instructional mailings
  - customized screening tools for providers
- Two MCOs also completed interventions at the enrollee level
  - newletters
  - provided enrollees with screening tools in mail

Activity 9: Demonstrating Improvement

- Remeasurement of Quality indicators
- Data from Quality of Care Audits shows improvement

1998	-	0-4% of medical records had screening
1999	-	3-15% of medical records had screening

Activity 10: Achieving Sustained Improvement

- To Be Continued

Lessons Learned So Far

- OIP started too early in Program
- MCOs need more technical assistance more monitoring in collecting baseline data
- Flexibility in not always a good thing
- No comparison data available
- Improvement takes time

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